



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : MSDS21994
Item No. : 21994

**** MATERIAL SAFETY DATA SHEET ****

ANTI-STATIC CRT CLEANER

Part # MSDS21994

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: ANTI-STATIC CRT CLEANER

Product CAS: (none)

Product Code:

Synonyms: 21994; ANTI-STATIC CRT CLEANER

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: HEALTH AND TECHNICAL CONTACTS: HEALTH ISSUES AND TECHNICAL INFORMATION

(8AM-5PM ET): 1-216-416-7200 X 5860

Emergency Number: ROCKY MOUNTAIN POISON CONTROL CENTER (24 HOURS EVERYDAY): 1-303-623-5716

Emergency Agency: CHEMTREC (24 HOURS EVERYDAY):

Number: 1-800-424-9300

MSDS Creation Date: 1/1/2003

Supersedes Date: 3/29/2000

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
2-BUTOXYETHANOL	111-76-2	1	10
ISOPROPANOL	67-63-0	1	10
ISOBUTANE	75-28-5	1	10
DEIONIZED WATER	7732-18-5	70	80

Miscellaneous:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENT	OSHA PEL	ACGIH TLV	STEL
2-BUTOXYTHANOL	50 PPM (SKIN)	25 PPM (SKIN)	N.E.
ISOPROPANOL	400 PPM	400 PPM	500 PPM
ISOBUTANE	N.A.	N.A.	N.A.

WATER

N.A.

N.A.

N.E.

Lbs of VOC per Gallon Coating (minus water): 1.7

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 2 Fire: 4 Reactivity: 0 Other:

HMIS: Health: 2 Fire: 4 Reactivity: 0 Special Protection:

Miscellaneous:

APPEARANCE AND ODOR:

EMERGENCY OVERVIEW:

CONDITIONS TO AVOID: AVOID CONTINUOUS BREATHING OF VAPORS.

HMIS AND NFPA HAZARD RATINGS:

CATEGORY: HMIS/NFPA

PERSONAL PROT./SPECIFIC HAZ.*

*REFER TO SECTION 8.

POTENTIAL HEALTH EFFECTS

Target Organs:

PRIMARY ROUTES OF EXPOSURE: INHALATION, INGESTION, AND SKIN CONTACT

Eye:

Skin:

SIGNS AND SYMPTOMS OF EXPOSURE: SKIN: REDNESS.

Ingestion:

SIGNS AND SYMPTOMS OF EXPOSURE: INGESTION: VOMITING.

Inhalation:

SIGNS AND SYMPTOMS OF EXPOSURE: INHALATION: DIFFICULTY IN BREATHING.

Miscellaneous:

HEALTH HAZARDS (ACUTE AND CHRONIC) : MAY CAUSE DIZZINESS OR NARCOSIS IN HIGH VAPOR CONCENTRATIONS. WILL CAUSE DEFATTING OF SKIN. EFFECTS ARE REVERSIBLE. EYE AND SKIN IRRITANT.

ASPIRATION HAZARD IF SWALLOWED. LONG-TERM EXPOSURE (YEARS) TO HIGH CONCENTRATIONS VAPOR MAY

CAUSE LUNG, LIVER OR KIDNEY DAMAGE. THE SOLVENTS LISTED HAVE BEEN REPORTED TO THE

CENTRAL NERVOUS SYSTEM. MAY IRRITATE RESPIRATORY TRACT. DELIBERATELY CONCENTRATING AND INHALING

THE VAPOR OF THE CONTENTS MAY BE HARMFUL OR FATAL. 2-BUTOXYETHANOL MAY CAUSE INJURY AND

BLOOD ABNORMALITIES, MAY BE ABSORBED THROUGH THE SKIN WITH TOXIC EFFECTS, AND MAY

CAUSE DAMAGE
TO SPLEEN AND TESTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: HEART DISEASE, RESPIRATORY DISORDERS.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:
WASH EYES WITH WATER FOR 15 MINUTES.

Skin:
WASH SKIN WITH WATER FOR 15 MINUTES.

Ingestion:
DO NOT INDUCE VOMITING. GET MEDICAL HELP.

Inhalation:
GIVE OXYGEN.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:
HEATED CANS MAY BURST.

Special Fire Fighting Procedures:
KEEP CONTAINERS COOL. USE EQUIPMENT OR SHIELDING REQUIRED TO PROTECT AGAINST
BURSTING OR
VENTING CONTAINERS.
SECTION 6: ACCIDENTAL RELEASE MEASURES

Extinguishing Media:
USE WATER FOG, DRY CHEMICAL, FOAM OR CARBON DIOXIDE.

Flash Point:
-160 DEGF. TCC

Flammable Limits:
Lower Limit:
(%) LEL: 1.9
Upper Limit:
(%) UEL: 8.5

AutoIgnition Temperature:
NOT AVAILABLE

General Information:

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE WITH EPA RCRA.

Spills/Leaks:

USE ABSORBENT SWEEPING COMPOUND TO SOAK UP MATERIAL. PUT INTO CONTAINER. DISPOSE AS HAZARDOUS WASTE.
STE.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

KEEP AWAY FROM HEAT, SPARKS, OR OPEN FLAME. STORE AT TEMPERATURE BELOW 120 F.

Storage:

SEE "HANDLING" ABOVE.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

VENTILATION: LOCAL EXHAUST.

Eyes:

SAFETY GLASSES.

Skin:

NOT REQUIRED IF SPRAYING.

Clothing:

LONG SLEEVES AND LONG PANTS.

Respirators:

USE NIOSH APPROVED RESPIRATOR IF TLV LIMIT IS EXCEEDED.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

CLEAR/CITRUS ODOR.

pH: NOT AVAILABLE

Vapor Pressure: 45 PSIG @ 70 DEG F

Vapor Density: (AIR = 1): 4.0. HEAVIER THAN AIR.

Evaporation Rate: (ETHER = 1): LT 1

Viscosity: NOT DETERMINED

Boiling Point: -11.7 TO 343 DEG F

Freezing/Melting Point: FREEZING POINT: NOT DETERMINED

Decomposition Temperature:

Solubility: IN WATER: SOLUBLE

Specific Gravity: .9

Molecular Formula:

Molecular Weight:

Miscellaneous:

ODOR TYPE: N.D.

VOC (% BY WT.): 22%. 1.7 LB./GAL.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
STABLE.

Conditions to Avoid:

Incompatibilities with Other Materials:
STRONG OXIDIZERS, ACIDS, CHLORINE, ACETALDEHYDE, ETHYLENE OXIDE,
ISOCYANATES, ALUMINUM SURFACES ABOVE 120 DEG F.

Hazardous Decomposition Products:
CARBON DIOXIDE. SILICON DIOXIDE.

Hazardous Polymerization:
WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:
CARCINOGENICITY: NO.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:
NO DATA AVAILABLE.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:
WHEN SPRAYING MORE THAN ONE HALF CAN CONTINUOUSLY OR MORE THAN ONE CAN
CONSECUTIVELY, USE NIOSH
APPROVED RESPIRATOR.

Work/Hygienic Practices:
DO NOT SMOKE WHILE USING. WASH HANDS AFTER USING.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
DOT SHIPPING NAME: CONSUMER COMMODITY, ORM-D.

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

TSCA STATUS: EACH INGREDIENT IS ON THE TSCA INVENTORY.

NSR STATUS (CANADA): NOT DETERMINED.

SARA TITLE III:

HAZARD CATEGORIES:

ACUTE HEALTH: YES

CHRONIC HEALTH: YES

FIRE HAZARD: YES

PRESSURE HAZARD: YES

REPORTABLE INGREDIENTS:

SECTION 302/303: NONE.

SECTION 313: 2-BUTOXYETHANOL

CERCLA RQ: N.D.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

N.A.=NOT APPLICABLE

N.D.=NOT DETERMINED

N.E.=NOT ESTABLISHED

REVISION SUMMARY: THIS MSDS REPLACES THE MARCH 18, 1997 MSDS. PREPARED MARCH 29, 2000.

MATERIAL SAFETY DATA SHEET

MSDS #: 81800

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Sanford NA
2707 Butterfield Road
Oak Brook, IL 60523
Phone: 630-481-2000 or 800-323-0749

Emergency Medical Number: 888-786-0972

Creation Date: August 1, 2005

Section One: Product Information

Product Name: Expo Cleaner

Colors: Clear

Sanford is a member of The Art and Creative Materials Institute, Inc. This product is certified by the Institute to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D-4236 and is labeled with the CL (Cautionary Label) Seal. Products bearing the CL Seal are certified to be properly labeled in a program of toxicological evaluation by a medical expert for any known health risks and with information on safe and proper use of these materials. Conforms to ASTM D-4236.

Section Two: Composition

Water, 2-Butoxyethanol (111-76-2), isopropyl alcohol (67-63-0)

Section Three: Hazards Identification

WARNING: COMBUSTIBLE. VAPOR HARMFUL. MAY BE HARMFUL IF SWALLOWED, OR BY SKIN CONTACT. EYE IRRITANT.
CONTAINS: 2-BUTOXYETHANOL, ISOPROPYL ALCOHOL. PRECAUTIONS: Avoid ingestion. Keep away from eyes. Do not store or use near heat or flame. Use only with adequate ventilation. KEEP OUT OF REACH OF CHILDREN. FIRST AID: If eye contact occurs, rinse with tap water for 5-10 minutes. If irritation persists, seek medical care. If skin contact occurs, wash with soap and water for 5 minutes. If swallowed, get prompt medical attention. For further health information, contact a poison control center or call 888-786-0972.

Section Four: First Aid Measures

Inhalation: If symptoms occur, move to fresh air.

Skin Contact: If skin contact occurs, wash with soap and water for 5 minutes.

Eye Contact: If eye contact occurs, rinse with tap water for 5-10 minutes. If irritation persists, seek medical care.

Ingestion: If swallowed, get prompt medical attention.

Section Five: Fire Fighting Measures

Flash Point: 105F (TCC)

Flammability Limits (% by volume): Lower: 2.2% (isopropyl alcohol) Upper: Not available

Extinguishing Media: As appropriate for surrounding area.

Special Fire Fighting Measures: None

Unusual Fire and Explosion Hazards: None

Section Six: Accidental Release Measures

In Case of Spill or Accidental Release: Wipe up with absorbent material.

Section Seven: Handling and Storage

Handling: Use in a well-ventilated area. Aim nozzle away from eyes.

Storage: Do not store or use near heat or flame.

Section Eight: Exposure Controls and Personal Protection

Eye Protection: None under normal use conditions. Avoid prolonged eye contact.
Clothing: None under normal use conditions.
Respirator: None under normal use conditions.
Ventilation: None under normal use conditions. Use in a well ventilated area.

Section Nine: Physical and Chemical Properties

For product unless otherwise specified:
Boiling Point: 180F (isopropyl alcohol)
Specific Gravity: 0.96
Vapor Pressure: 33 mg Hg (isopropyl alcohol)
Solubility in Water: complete
Evaporation Rate: Not available
Appearance; Odor: Clear liquid; alcoholic odor

Section Ten: Stability and Reactivity

Stability: Stable
Conditions to Avoid: None known
Chemical Incompatibility: Strong oxidizers, acids, isocyanates
Hazardous Decomposition: None known
Hazardous Polymerization: Will not occur.

Section Eleven: Toxicological Information

IARC Monographs: No
National Toxicology Program: No
OSHA Regulated: No

Section Twelve: Ecological Information

Not available

Section Thirteen: Disposal Considerations

Dispose in accordance with Federal, State, and Local Regulations.

Section Fourteen: Transport Information

ORM-D Consumer Commodity
Flammable Liquid, n.o.s. (isopropanol), 3, UN1993, PGIII (105F TCC), Ltd. Qtys, EmS#3-07
Consumer Commodity, 9, ID8000, packing instruction 910

Section Fifteen: Regulatory Information

TSCA INVENTORY: The product on this Material Safety Data Sheet is not listed on the Toxic Substances Control Act Inventory. All ingredients used to manufacture this product are listed on the TSCA Inventory

Section Sixteen: Other Information
HMIS Code

Health	2
Flammability	2
Reactivity	0
Personal Protection	H

0=Minimal / 4 = Severe

Sanford NA has been advised by Counsel that the OSHA Hazard Communication Standard does not apply to the Sanford Product described in this Material Safety Data Sheet. The reason for the exemption is contained in 29 CFR 1910.1200(b)(6)(ix) as amended July 1, 2004 per the Code of Federal Regulations. The information contained in this MSDS is forwarded to you for your information, but is not meant to imply that the product is covered by the Hazard Communication Standard nor is this MSDS meant to comply with all requirements of the Hazard Communication Standard.

Material Safety Data Sheet

MSDS#: 198-17

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Sanford Corporation
2711 Washington Boulevard
Bellwood, IL 60104

Telephone Number: 1-800-323-0749
Initiated By: Susan Nyborg
Date of Last Revision: June 1, 2001
Medical Emergency No: 1-800-228-5635

Section One: Product Identification

Product Name Expo_R Dry Erase Markers – Bullet, Chisel, and Ultra Fine Point

Colors: Black, Red, Blue, Green, Yellow, Orange, Brown, Purple

Sanford Corporation is a member of The Art and Creative Materials Institute, Inc. This product is certified by the Institute to be labeled in accordance with the voluntary chronic hazard labeling standard ASTM D4236 and is labeled with the AP Non-Toxic Seal. Products bearing the AP Approved Product Seal of The Art and Creative Materials Institute, Inc. are certified in a program of toxicological evaluation by a medical expert, subject to review by the Institute Toxicology Advisory Board, to contain no materials in sufficient quantities to be toxic or injurious to humans, or to cause acute or chronic health problems.

Section Two: Composition

Pigments, resins, methyl isobutyl ketone (108-10-1), n-butyl acetate (123-86-4)

Section Three: Physical and Chemical Characteristics

	For methyl isobutyl ketone:
Boiling Point:	237-243°F at 760 mm Hg
Vapor Pressure (mm Hg):	16 mm Hg at 20°C
Specific Gravity:	0.800-0.803 at 68°F
Solubility in Water:	Not available
Appearance and Odor:	Mobile clear liquid; strong ketone odor
Evaporation Rate:	1.64 (n-butyl acetate = 1)

Section Four: Fire and Explosion Hazard Data

Flash Point (Method Used):	60°F (TCC) for methyl isobutyl ketone
Flammability Limits (% by volume):	Lower: 1.4% Upper: Not available
Extinguishing Medium:	N/A
Special Fire Fighting Procedures:	N/A
Unusual Fire and Explosion Hazards:	N/A

Section Five: Reactivity Data

Stability:	Stable
Conditions to Avoid:	None known
Chemical Incompatibility:	None known
Hazardous Decomposition:	None known
Hazardous Polymerization:	Will not occur.

Section Six: Health Hazard Data

Chemicals Listed as Carcinogens or Potential Carcinogen:

IARC Monographs:	No
National Toxicology Program:	No
OSHA Regulated:	No

This product is considered safe under normal use conditions.

Section Seven: Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spill:	Wipe up with absorbent material.
Waste Disposal Method:	Dispose in accordance with Federal, State, and Local Regulations.
Precautions to Be Taken in Handling and Storage:	Do not shake marker. Keep cap on marker when not in use. Store markers horizontally.
Other Precautions:	None

Section Eight: Personal Protection and Exposure Control Measures

Eye Protection:	None under normal use conditions.
Skin Protection:	None under normal use conditions.
Respiratory Protection:	None under normal use conditions.
Ventilation:	None under normal use conditions.
Protective Clothing:	None under normal use conditions.

HMIS Code	
Health	N/A
Flammability	N/A
Reactivity	N/A
Personal Protection	N/A

Sanford Corporation has been advised by council that the OSHA Hazard Communication Standard does not apply to the Sanford product described in this MSDS. The reason for the exemption is contained in 29 CFR 1910.1200 (b)(6)(ix), as amended July 1, 1994, per the Code of Federal Regulations. The information contained in this MSDS is forwarded to you for your information, but is not meant to imply that the product is covered by the Hazard Communication Standard, nor is the MSDS meant to comply with all the requirements of the Hazard Communication Standard.

0 = Minimal / 4 = Severe Hazard



ZEP Manufacturing Company
 Acuity Specialty Products Group, Inc.
 P.O. Box 2015
 Atlanta, GA 30301
 1-877-I-BUY-ZEP (428-9937)
 www.zep.com

Material Safety Data Sheet

and Safe Handling and Disposal Information

Section 1. Chemical Product and Company Identification

Product name ZEP 2000
Product Use Aerosol Penetrating Grease
Product Code 4164
Date of issue 12/30/04 **Supersedes** 02/18/04
Emergency Telephone Numbers For MSDS Information:
 Acuity Specialty Products Group, Inc.
 Compliance Services 1-877-I-BUY-ZEP

For Medical Emergency:
 INFOTRAC
 (877) 541-2016 Toll Free - All Calls Recorded

For a Transportation Emergency:
 CHEMTREC
 (800) 424-9300 - All Calls Recorded
 In the District of Columbia (202) 483-7616

Printing date: 12/30/04

Prepared by Compliance Services Group
 Acuity Specialty Products Group
 1420 Seaboard Industrial Blvd.
 Atlanta, GA 30318

Section 2. Composition, Information on Ingredients

Name of Hazardous Ingredients	CAS #	% by Weight	Exposure Limits
HEPTANE; n-heptane	142-82-5	20 - 30	ACGIH/OSHA (United States). TWA: 400 ppm 8 hour(s).
BLEND OF ISOBUTANE & PROPANE	74-98-6; 75-28-5	20 - 30	ACGIH/OSHA (United States). STEL: 500 ppm 15 minute(s). ACGIH TLV (United States). TWA: 800 ppm 8 hour(s).
HYDROTREATED LIGHT PETROLEUM DISTILLATES; paraffinic, naphthenic solvent	64742-47-8	<10	OSHA PEL (United States). TWA: 1000 ppm 8 hour(s). Supplier Suggested (United States). TWA: 100 ppm 8 hour(s).

Section 3. Hazards Identification

Acute Effects

Routes of Entry Absorbed through skin. Inhalation.

Skin Hazardous in case of skin contact (irritant, permeator). Skin inflammation is characterized by itching, scaling, or reddening. Product may be dermal absorbed. Defatting properties, may aggravate an existing dermatitis.

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Inhalation Hazardous in case of inhalation (lung irritant). Avoid breathing vapors or spray mists. Over-exposure by inhalation may cause respiratory irritation. Can cause central nervous system depression. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Ingestion Harmful if swallowed. Aspiration hazard if swallowed- can enter lungs and cause damage. Vomiting increases risk of chemical pneumonia.

HMIS	
Health	1
Physical Hazard	4
Reactivity	0
Personal Protection	B

NOTE: MSDS data pertains to the product as delivered in the original shipping container(s). Risk of adverse health effects are lessened by following all prescribed safety precautions, including use of proper personal protective equipment.

Carcinogenic Effects

Ingredients: Not listed as carcinogen by OSHA, NTP or IARC.

Chronic Effects

Prolonged or repeated contact may dry skin and cause irritation. Over-exposure by inhalation or absorption can cause central nervous system depression.

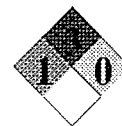
See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	Wash affected area with soap or mild detergent and water. Remove contaminated clothing and shoes. Wash clothing before reuse. If irritation persists, get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Aspiration hazard if swallowed- can enter lungs and cause damage. Never give anything by mouth to an unconscious person. Do NOT induce vomiting unless directed to do so by medical personnel. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flash Point	Closed cup: <18°C (<0°F) Tagliabue.	Flammable Limits LOWER: 1.2% UPPER: 6.7%
Flammability	Extremely flammable. (CSMA) Aerosol that may flashback.	
Fire Hazard	Vapor may cause fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions or when heated.	
Fire-Fighting Procedures	Dry chemical, carbon dioxide, foam, water fog. Wear special protective clothing and positive pressure, self-contained breathing apparatus. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.	

**Section 6. Accidental Release Measures**

Spill Clean up	Large spills are unlikely due to packaging.
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Section 7. Handling and Storage

Handling	Extremely flammable liquid and vapor. Keep away from heat, sparks and flame. Use only with adequate ventilation. Avoid breathing vapors or spray mists. Avoid contact with eyes, skin and clothing. Wash contaminated clothing before reusing. Wash thoroughly after handling.
Storage	CONTENTS UNDER PRESSURE. Store and use away from heat, sparks, open flame, or any other ignition source. Keep away from heat and direct sunlight. Keep container in a cool, well-ventilated area. Do not store above 49°C (120.2°F). Do not puncture or incinerate. Keep out of the reach of children.

Section 8. Exposure Controls, Personal Protection

	Personal Protection	Protective Clothing (Pictograms)
Eyes	Safety glasses.	
Body	Neoprene gloves. Nitrile gloves. Rubber gloves.	
Respiratory	Use with adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Wear appropriate respirator when ventilation is inadequate. Approved/certified respirator with organic vapor cartridges.	

Section 9. Physical and Chemical Properties

Physical State	Liquid. (Aerosol.)	Color Amber.
pH	Not applicable.	Odor Solvent-like.
Boiling Point	Not determined.	Vapor Pressure Not determined.
Specific Gravity	0.75 (Water = 1)	Vapor Density Not determined.
Solubility	Insoluble in cold water, hot water.	Evaporation Rate >1 compared to Butyl acetate.
		VOC (Consumer) 50.0% 3.12 (lb/gal) 374 (g/l)

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Incompatibility	Avoid contact with strong oxidizers, excessive heat, sparks or open flame.
Hazardous Polymerization	Will not occur.
Hazardous Decomposition Products	carbon oxides (CO, CO ₂) and sulfur oxides (SO ₂ , SO ₃ ...)

Section 11. Toxicological Information

Toxicity to Animals	Hydrotreated Light Petroleum Distillates :
	ORAL (LD50): Acute: >5000 mg/kg [Rat].
	DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Section 12. Ecological Information**Ecotoxicity** Not available.**Biodegradable/OECD** Not available.**Section 13. Disposal Considerations**

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Stream Code: D001
Classification: - (Hazardous waste.)
Origin: - (RCRA waste.)

Consult your local or regional authorities.

Section 14. Transport Information**Proper shipping name** Consumer Commodity**DOT Classification** ORM-D**UN number** Not available.

NOTE: DOT classification applies to most package sizes. For specific container size classifications or for size exceptions, refer to the Bill of Lading with your shipment.

Section 15. Regulatory Information

U.S. Federal Regulations SARA 313 toxic chemical notification and release reporting:
No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.
All Components of this product are listed or exempt from listing on TSCA inventory.

Section 16. Other Information

*To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution.
Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*



Revision Date: 10/29/2004

Issue date: 10/29/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Penetrating Oil
Product type: Lubricant
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067

Item No. : 51221
Region: United States
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Petroleum oils	30-60	5 mg/m ³ TWA (mist) 10mg/m ³ STEL (mist)	5 mg/m ³ TWA (mist)	None
n-Heptane 142-82-5	10-30	400 ppm TWA 500 ppm STEL	2000 mg/m ³ TWA 500 ppm TWA	None
Propane 74-98-6	10-30	1000 ppm TWA listed under aliphatic hydrocarbon gases alkane C1-C4	1000 ppm TWA 1800 mg/m ³ TWA	None
2-Propoxyethanol 2807-30-9	1-5	None	None	None

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****HMIS:**

Physical state: Aerosol
Color: Pale yellow
Odor: Orange

HEALTH: 1
FLAMMABILITY: 3
PHYSICAL HAZARD: 0
Personal Protection: See Section 8

DANGER: EXTREMELY FLAMMABLE.
CONTENTS UNDER PRESSURE.
HARMFUL IF INHALED.
HARMFUL OR FATAL IF SWALLOWED.
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Skin, inhalation, eyes

Potential Health Effects

Inhalation: May cause irritation to nose and throat. May cause symptoms of intoxication. Dizziness. Nausea. Headache. Indigestion.
Skin contact: May cause irritation due to defatting of the skin.
Eye contact: Direct spray or vapors will irritate and may harm eyes.
Ingestion: May be harmful or fatal if swallowed. May cause an aspiration hazard if swallowed. Aspirated material can enter the lungs and result in pneumonitis.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

Item No. : 51221

Product name: Penetrating Oil

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If discomfort persists seek medical attention.
Skin contact:	Remove contaminated clothing and shoes. Wash with soap and water. Get medical attention if symptoms occur.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion:	Not available

5. FIRE-FIGHTING MEASURES

Flash point:	Not applicable to aerosols. Flame Extension: 18 inches. Extremely Flammable
Autoignition temperature:	Not available
Flammable/Explosive limits-lower %:	1.8
Flammable/Explosive limits-upper %:	9.5
Extinguishing media:	Foam. Dry chemical. Carbon dioxide (CO ₂).
Special fire fighting procedures:	Use water spray to keep fire exposed containers cool.
Unusual fire or explosion hazards:	Contents under pressure. Do not store or use near heat, spark, open flame or other sources of ignition. Do not puncture or incinerate pressurized containers. Exposure to temperatures above 49°C (120°F) may cause container to burst.
Hazardous combustion products:	Irritating organic vapors.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Remove sources of ignition. Ventilate area. Prevent product from entering drains or open waters.
Clean-up methods:	Clean-up methods - large spillage. Flush with water.

7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling. Keep away from heat, spark and flame.
Storage:	Keep in a cool, well ventilated area. Do not puncture, incinerate, or expose to temperatures above 48.9 °C (120 °F). Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst.
Incompatible products:	None.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:	Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.
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Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). When workplace hazards warrant the use of a respirator, appropriate respirators must be used, and a program that follows 29 CFR 1910.134 must be followed.

Skin protection: Chemical resistant, impermeable gloves.

Eye/face protection: Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Aerosol
Color: Pale yellow
Odor: Orange
Vapor pressure: 106 to 110 psig
pH: Not applicable
Boiling point/range: Greater than 204.4°C (400°F)
Melting point/range: Not available
Specific gravity: 0.800-0.840 (concentrate)
Vapor density: Not available
Evaporation rate: Slower than butyl acetate
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): Not available
VOC content: 46%

10. STABILITY AND REACTIVITY

Stability: Stable

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Oxides of carbon. Hydrocarbons

Incompatibility: Strong oxidizers.

Conditions to avoid: Do not puncture, incinerate, or expose to temperatures above 48.9 °C (120 °F).

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Petroleum oils	No	No	No
n-Heptane 142-82-5	No	No	No
Propane 74-98-6	No	No	No
2-Propoxyethanol 2807-30-9	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Petroleum oils	Irritant
n-Heptane 142-82-5	Central nervous system, Irritant
Propane 74-98-6	Cardiac, Central nervous system, Irritant
2-Propoxyethanol 2807-30-9	Allergen, Blood, Developmental, Irritant

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None
Exceptions: (Not more than 1 Liter) Consumer Commodity ORM-D
Marine pollutant: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN1950
Packing group: None
Exceptions: (Not more than 500) ID8000

WaterTransportation (IMO/IMDG):

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN1950
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: n-Heptane (142-82-5).

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). 2-Propoxyethanol (CAS#2807-30-9).

California Proposition 65: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Benzene (CAS# 71-43-2). Ethanol, 2-ethoxy- (CAS# 110-80-5).

Canada Regulatory Information

CEPA DSL/NDSL Status: Contains one or more components listed on the Non-Domestic Substances list. Those components must be tracked by all Canadian Importers of Record as required by the Canadian Environmental Protection Agency. They may be imported into Canada in limited quantities. Please contact Loctite Health & Regulatory Affairs Department for details.
WHMIS hazard class: A, B.1, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 15

Prepared by:

C.J. Michaels, Senior Health & Regulatory Affairs Specialist

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Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Acetylene, dissolved (MSDS No. P-4559-I)			Trade Name: Acetylene
Chemical Name: Acetylene			Synonyms: Acetylen, ethine, ethyne, narylene
Formula: C ₂ H ₂			Chemical Family: Alkyne
Telephone:	Emergencies: 1-800-645-4633*	Company Name: Praxair, Inc. 39 Old Ridgebury Road Danbury, CT 06810-5113	
	CHEMTREC: 1-800-424-9300*		
	Routine: 1-800-PRAXAIR		

* Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).

2. Composition/Information on Ingredients

This section covers materials of manufacture only. See sections 3, 8, 10, 11, 15, and 16 for information on by-products generated during use, especially use in welding and cutting. See section 16 for important information about mixtures.

INGREDIENT	CAS NUMBER	CONCENTRATION	OSHA PEL	ACGIH TLV-TWA (2004)**
Acetylene	74-86-2	>99%*	None currently established	Simple asphyxiant

* The symbol > means "greater than."

** Acetylene cylinders are filled with a porous material containing acetone (CAS 67-64-1) into which the acetylene is dissolved. ACGIH (2004) has established a TLV-TWA of 500 ppm for acetone and a STEL of 750 ppm. OSHA PEL, 1000 ppm, 2400 mg/m³.

3. Hazards Identification

EMERGENCY OVERVIEW

DANGER! Flammable gas under pressure.

Can form explosive mixtures with air.

Fusible plugs in top, bottom, or valve melt at 208-224°F (98-107°C).

Do not discharge at pressures above 15 psig (103 kPa).

May cause dizziness and drowsiness.

Self-contained breathing apparatus may be required by rescue workers.

Odor: Garlic-like

THRESHOLD LIMIT VALUE: TLV-TWA, simple asphyxiant (ACGIH, 2004). See section 2 for solvent TLVs; section 16 for more information on welding hazards. TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION—Asphyxiant. Effects are due to lack of oxygen. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess salivation, nausea, vomiting, and unconsciousness. The vapor from a liquid release may also cause incoordination and abdominal pain. Effects may be delayed. Lack of oxygen can kill.

SKIN CONTACT—No harm expected from vapor. Liquid (acetone) may cause frostbite.

SWALLOWING—An unlikely route of exposure, but frostbite of the lips and mouth may result from contact with the liquid. If swallowed, the liquid may cause nausea.

EYE CONTACT—Vapor containing acetone may irritate the eyes. Liquid may irritate and cause frostbite.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: No harm expected.

OTHER EFFECTS OF OVEREXPOSURE: Asphyxiant. Lack of oxygen can kill.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: The toxicology and the physical and chemical properties of this product suggest that overexposure is unlikely to aggravate existing medical conditions.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION: None known.

CARCINOGENICITY: This product is not listed by NTP, OSHA, or IARC.

4. First Aid Measures

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.

SKIN CONTACT: For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). In case of massive exposure, remove contaminated clothing while showering with warm water. Call a physician.

SWALLOWING: If liquid is swallowed, do not induce vomiting. Call a physician.

EYE CONTACT: In case of splash contamination, immediately flush eyes thoroughly with warm water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Urgently seek the advice of a physician, preferably an ophthalmologist.

NOTES TO PHYSICIAN: *Aspirated acetone may cause severe lung damage. If a large quantity of material has been swallowed, stomach contents should be evacuated quickly in a manner that avoids aspiration. Otherwise, there is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.*

5. Fire Fighting Measures

FLASH POINT (test method)	0°F (-17.8°C)	AUTOIGNITION TEMPERATURE	581°F (305°C) at 1 atm
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	2.5%	UPPER 100%

EXTINGUISHING MEDIA: See the following paragraphs. See CGA Pamphlet SB-4, *Handling Acetylene Cylinders in Fire Situations*, listed in section 16, for further information.

SPECIAL FIRE FIGHTING PROCEDURES: DANGER! Flammable gas under pressure.

Evacuate all personnel from danger area. Immediately cool cylinders with water spray from maximum distance taking care not to extinguish flames. If flames are accidentally extinguished, explosive re-ignition may occur. Use self-contained breathing apparatus. Remove ignition sources if without risk. Stop flow of gas if without risk while continuing cooling water spray. Remove all cylinders from area of fire if without risk. Allow fire to burn out. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Extremely flammable gas. Forms explosive mixtures with air and oxidizing agents. Heat of fire can build pressure in cylinder and cause it to rupture. Acetylene cylinders are provided with pressure relief devices designed to vent contents when exposed to elevated temperature. No part of a cylinder should be subjected to a temperature higher than 125°F (52°C).

If venting or leaking acetylene catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an approved explosion meter.

HAZARDOUS COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: DANGER! Flammable gas under pressure. Forms explosive mixtures with air. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if without risk. Reduce vapors with fog or fine water spray. Shut off flow if without risk. Ventilate area or move leaking cylinder to well-ventilated area. Flammable gas may spread from leak. Before entering area, especially confined areas, check atmosphere with an appropriate device.

WASTE DISPOSAL METHOD: Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Separate acetylene cylinders from oxygen and other oxidizers by at least 20 ft (6.1 m), or use a barricade of noncombustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least ½ hour. Storage in excess of 2,500 cu ft (70.79 m³) is prohibited in buildings with other

occupancies. Firmly secure cylinders upright to keep them from falling or being knocked over. Acetylene cylinders designed to accept a valve protection cap must be provided with a cap. Screw cap firmly in place by hand. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas must meet national electric codes for Class 1 hazardous areas. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

PRECAUTIONS TO BE TAKEN IN HANDLING: Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. All piped acetylene systems and associated equipment must be grounded. Electrical equipment must be non-sparking or explosion-proof. Leak check with soapy water; never use a flame. Never use copper piping for acetylene service; use only steel or wrought iron. Open acetylene cylinder valves the minimum amount required for acceptable flow; this will allow you to close valves as quickly as possible in an emergency. Do not open acetylene cylinder valves more than 1½ turns. Never use acetylene at pressures exceeding 15 psig (103.5 kPa). Acetylene cylinders are heavier than other cylinders because they are packed with a porous material and acetone. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. For other precautions in using acetylene, see section 16.

For additional information on storage and handling, refer to Compressed Gas Association (CGA) pamphlet P-1, *Safe Handling of Compressed Gases in Containers*, available from the CGA. Refer to section 16 for the address and phone number along with a list of other available publications.

8. Exposure Controls/Personal Protection

VENTILATION/ENGINEERING CONTROLS:

LOCAL EXHAUST—Use a local exhaust system, if necessary, to prevent oxygen deficiency and to keep hazardous fumes and gases below applicable TLVs in the worker's breathing zone.

MECHANICAL (general)—General exhaust ventilation may be acceptable if it can maintain an adequate supply of air and keep hazardous fumes and gases below the applicable TLVs in the worker's breathing zone.

SPECIAL—None

OTHER—None

RESPIRATORY PROTECTION: Use air-purifying or air-supplied respirators, as appropriate, where local or general exhaust ventilation is inadequate. Adequate ventilation must keep worker exposure below applicable TLVs for fumes, gases, and other by-products of welding with acetylene. See sections 3, 10, and 16 for details. An air-supplied respirator must be used in confined spaces. Respiratory protection must conform to OSHA rules as specified in 29 CFR 1910.134. Select per OSHA 29 CFR 1910.134 and ANSI Z88.2.

SKIN PROTECTION: Wear work gloves when handling cylinders; welding gloves for welding and cutting.

EYE PROTECTION: Wear goggles with filter lenses selected as per ANSI Z49.1. Provide protective screens and goggles, if necessary, to protect others. Select as per OSHA 29 CFR 1910.33. For welding, see section 16.

OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133. For welding, see section 16. Regardless of protective equipment, never touch live electrical parts.

9. Physical and Chemical Properties

MOLECULAR WEIGHT:	26.04
SPECIFIC GRAVITY (Air = 1) at 32°F (0°C) and 1 atm:	0.906
GAS DENSITY at 32°F (0°C) and 1 atm:	0.07314 lb/ft ³ (1.1716 kg/m ³)
VAPOR PRESSURE at 68°F (20°C):	649.6 psia (4479 kPa abs)*
SOLUBILITY IN WATER , vol/vol at 32°F (0°C) and 1 atm:	1.7
PERCENT VOLATILES BY VOLUME:	100
BOILING POINT at 1 atm:	-119.2°F (-84°C)
MELTING POINT:	-113.35°F (-80.75°C)

APPEARANCE, ODOR, AND STATE: Colorless gas. Acetylene of 100% purity is odorless, but commercial acetylene has a distinctive garlic-like odor.

*Maximum cylinder pressure: 250 psig (kPa) at 70°F (21.1°C)

10. Stability and Reactivity

STABILITY: ☒ Unstable* ☐ Stable

*Acetylene is stable as shipped. Avoid use at pressures above 15 psig (103 kPa).

INCOMPATIBILITY (materials to avoid): Copper, silver, mercury, or their alloys; oxidizing agents; acids; halogens; moisture.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition or burning may produce CO/CO₂H₂. The welding and cutting process may form reaction products such as carbon monoxide and carbon dioxide. Other decomposition products of normal operation originate from the volatilization, reaction, or oxidation of the material being worked.

HAZARDOUS POLYMERIZATION: ☐ May Occur ☒ Will Not Occur

CONDITIONS TO AVOID: Elevated temperature and pressure and/or the presence of a catalyst.

11. Toxicological Information

The welding process may generate hazardous fumes and gases. (See sections 3, 10, 15, and 16.)

12. Ecological Information

No adverse ecological effects expected. Acetylene does not contain any Class I or Class II ozone-depleting chemicals. Acetylene is not listed as a marine pollutant by DOT.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information**DOT/IMO SHIPPING NAME:** Acetylene, dissolved**HAZARD CLASS:** 2.1 **IDENTIFICATION NUMBER:** UN 1001 **PRODUCT RQ:** None**SHIPPING LABEL(s):** FLAMMABLE GAS**PLACARD (when required):** FLAMMABLE GAS

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:**EPA (ENVIRONMENTAL PROTECTION AGENCY)**

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: No

PRESSURE: Yes

DELAYED: No

REACTIVITY: Yes

FIRE: Yes

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

Acetylene does not require reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Acetylene is listed as a regulated substance in quantities of 10,000 lb (4536 kg) or greater.

TSCA: TOXIC SUBSTANCES CONTROL ACT: Acetylene is listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

Acetylene is not listed in Appendix A as a highly hazardous chemical. However, any process that involves a flammable gas on site in one location in quantities of 10,000 lb (4536 kg) or greater is covered under this regulation unless the gas is used as a fuel.

STATE REGULATIONS:

CALIFORNIA: Acetylene is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

WARNING: The combustion of acetylene produces carbon monoxide—a chemical known to the State of California to cause birth defects or other reproductive harm.

(California Health and Safety Code §25249.5 et seq.)

PENNSYLVANIA: Acetylene is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Be sure to read and understand all labels and instructions supplied with all containers of this product.

ADDITIONAL SAFETY AND HEALTH HAZARDS: Using acetylene in welding and cutting may create additional hazards.

Read and understand the manufacturer's instructions and the precautionary labels on the products used in welding and cutting. Ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, *Precautions and Safe Practices for Gas Welding, Cutting, and Heating*, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society (AWS), or see OSHA's Web site at <http://www.osha-slc.gov/SLTC/weldingcuttingbrazing/>. Order AWS documents from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5710, <http://global.ihs.com/>

FUMES AND GASES can be dangerous to your health and may cause serious lung disease.

- **Keep your head out of fumes. Do not breathe fumes and gases. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness; nausea; and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort.**

Fumes and gases cannot be classified simply. The amount and type depend on the metal being worked and the process, procedure, equipment, and supplies used. Possible dangerous materials may be found in fluxes and other materials. Get an MSDS for every material you use.

- **Contaminants in the air may add to the hazard of fumes and gases.**

Metal coatings such as paint, plating, or galvanizing may generate harmful fumes when heated. Residues from cleaning materials may also be harmful.

- **Avoid arc operations on parts with phosphate residues (anti-rust, cleaning preparations)—highly toxic phosphine may be produced.**

To find the quantity and content of fumes and gases, take air samples. By analyzing these samples, you can find out what respiratory protection you need. One recommended sampling method is to take air from inside the worker's helmet or from the worker's breathing zone. See AWS F1.1, *Methods for Sampling Airborne Particulates Generated by Welding and Allied Processes*, available from the AWS.

NOTES TO PHYSICIAN:

Acute: Gases, fumes, and dusts may cause irritation to the eyes, lungs, nose, and throat. Some toxic gases associated with welding and related processes may cause pulmonary edema, asphyxiation, and death. Acute overexposure may include signs and symptoms such as watery eyes, nose and throat irritation, headache, dizziness, difficulty breathing, frequent coughing, or chest pains.

Chronic: Protracted inhalation of air contaminants may lead to their accumulation in the lungs, a condition that may be seen as dense areas on chest x-rays. The severity of change is proportional to the length of exposure. The changes seen are not necessarily associated with symptoms or signs of reduced lung function or disease. In addition, the changes on x-rays may be caused by non-work-related factors such as smoking, etc.

PROTECTIVE CLOTHING AND EQUIPMENT FOR WELDING OPERATIONS:

PROTECTIVE GLOVES: Wear welding gloves.

EYE PROTECTION: Wear a helmet or use a face shield with a filter lens. Select lens per ANSI Z49.1. Provide protective screens and flash goggles if needed to protect others; select per OSHA 29 CFR 1910.133.

OTHER PROTECTIVE EQUIPMENT: Wear hand, head, and body protection. (See ANSI Z49.1.) Worn as needed, these help prevent injury from radiation, sparks, and electrical shock. Minimum protection includes welder's gloves and a face shield. For added protection consider arm protectors, aprons, hats, shoulder protection, and dark, substantial clothing.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: *Flammable gas under pressure.* Use piping and equipment adequately designed to withstand pressures to be encountered. Acetylene systems should be installed only by persons knowledgeable of the unique properties of acetylene and trained and experienced in such installation. *Arcs and sparks can ignite combustible materials.* Prevent fires. For more information, get NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hotwork*, published by the National Fire Protection Association. *Keep away from heat, sparks, and open flame.* Use only spark-proof tools and explosion-proof equipment. *In choosing tools and equipment, avoid materials incompatible with acetylene.* Copper, silver, and mercury; their salts, compounds, and high-concentration alloys can form explosive compounds with acetylene. Brass containing less than 65% copper and certain nickel alloys are generally acceptable for use in acetylene service but may not be adequate if high corrosion or excess moisture is present. *Gas can cause rapid suffocation* due to oxygen deficiency. Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. *Do not strike an arc on the cylinder.* The defect produced by an arc burn could lead to cylinder rupture. *Never work on a pressurized system.* If there is a leak, close the cylinder valve. Blow the system down in a safe and environmentally sound manner in compliance with all federal, state, and local laws; then repair the leak. *Never place a compressed gas cylinder where it may become part of an electrical circuit.* When using compressed gases in and around electric welding applications, never ground the cylinders. Grounding exposes the cylinders to damage by the electric welding arc.

MIXTURES: When you mix two or more gases or liquefied gases, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, gases and liquids have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 0
FLAMMABILITY = 4
INSTABILITY = 2
SPECIAL = None

HMIS RATINGS:

HEALTH = 2
FLAMMABILITY = 4
PHYSICAL HAZARD = 2

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:

The CGA-510 connection is standard for cylinders of greater than 50 cu ft (1.42 m³) capacity. See CGA Pamphlet V-1 for other, limited-standard connections.

PIN-INDEXED YOKE:

Not applicable

ULTRA-HIGH-INTEGRITY CONNECTION:

Not applicable

Use the proper CGA connections. **DO NOT USE ADAPTERS.** Additional limited-standard connections may apply. See CGA pamphlet V-1 listed below.

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information about this product can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, <http://www.cganet.com/Publication.asp>.

G-1.1 *Commodity Specification for Acetylene*
G-1 *Acetylene*
P-1 *Safe Handling of Compressed Gases in Containers*
SB-4 *Handling Acetylene Cylinders in Fire Situations*
SB-8 *Use of Oxy-Fuel Gas Welding and Cutting Apparatus*
V-1 *Compressed Gas Cylinder Valve Inlet and Outlet Connections*
— *Handbook of Compressed Gases, Fourth Edition*

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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Praxair Material Safety Data Sheet

1. Chemical Product and Company Identification

Product Name: Oxygen, compressed (MSDS No. P-4638-F)		Trade Name: Oxygen, MediPure™ Oxygen
Chemical Name: Oxygen		Synonyms: Dioxygen
Formula: O ₂		Chemical Family: Permanent gas
Telephone:	Emergencies: 1-800-645-4633* CHEMTREC: 1-800-424-9300* Routine: 1-800-PRAXAIR	Company Name: Praxair, Inc. 39 Old Ridgebury Road Danbury, CT 06810-5113

* Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).

2. Composition/Information on Ingredients

This section covers materials of manufacture only. See sections 3, 8, 10, 11, 15, and 16 for information on by-products generated during use, especially use in welding and cutting. See section 16 for important information about mixtures.

INGREDIENT	CAS NUMBER	CONCENTRATION	OSHA PEL	ACGIH TLV-TWA (2004)
Oxygen	7782-44-7	>99%*	None currently established	None currently established

*The symbol > means "greater than."

3. Hazards Identification

EMERGENCY OVERVIEW

**WARNING! High-pressure, oxidizing gas.
Vigorously accelerates combustion.**

**Self-contained breathing apparatus may be required by rescue workers.
Odor: None**

THRESHOLD LIMIT VALUE: None currently established (ACGIH, 2004). Hazardous fumes may be generated during welding with this product. See section 16 for more information on welding hazards. TLV-TWAs should be used as a guide in the control of health hazards and not as fine lines between safe and dangerous concentrations.

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION—Breathing 80% or more oxygen at atmospheric pressure for more than a few hours may cause nasal stuffiness, cough, sore throat, chest pain, and breathing difficulty. Breathing oxygen at higher pressure increases the likelihood of adverse effects within a shorter time period. Breathing pure oxygen under pressure may cause lung damage and also Central Nervous System (CNS) effects resulting in dizziness, poor coordination, tingling sensation, visual and hearing disturbances, muscular

twitching, unconsciousness, and convulsions. Breathing oxygen under pressure may cause prolongation of adaptation to darkness and reduced peripheral vision.

SKIN CONTACT—No harm expected.

SWALLOWING—This product is a gas at normal temperature and pressure.

EYE CONTACT—No harm expected.

EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE: No harm expected.

OTHER EFFECTS OF OVEREXPOSURE: See section 11, Toxicological Information.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: See section 11, Toxicological Information.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION: None known.

CARCINOGENICITY: Oxygen is not listed by NTP, OSHA, or IARC.

4. First Aid Measures

INHALATION: Immediately remove to fresh air. If not breathing, give artificial respiration. Keep victim warm and at rest. Call a physician. Advise the physician that the victim has been exposed to a high concentration of oxygen.

SKIN CONTACT: Wash with soap and water; seek medical attention if discomfort persists.

SWALLOWING: This product is a gas at normal temperature and pressure.

EYE CONTACT: Flush eyes thoroughly with water. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Get medical attention if discomfort persists.

NOTES TO PHYSICIAN: Supportive treatment should include immediate sedation, anti-convulsive therapy if needed, and rest. See section 11, Toxicological Information.

5. Fire Fighting Measures

FLASH POINT (test method):	Not applicable	
AUTOIGNITION TEMPERATURE:	Not applicable	
FLAMMABLE LIMITS IN AIR, % by volume:	LOWER: Not applicable	UPPER: Not applicable

EXTINGUISHING MEDIA: Vigorously accelerates combustion. Use media appropriate for surrounding fire. Water (e.g., safety shower) is the preferred extinguishing method for clothing fires.

SPECIAL FIRE FIGHTING PROCEDURES: WARNING! High-pressure, oxidizing gas. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Oxidizing agent; vigorously accelerates combustion. Contact with flammable materials may cause fire or explosion. Heat of fire can build pressure in cylinder and cause it to rupture. Oxygen cylinders are equipped with a pressure relief device. (Exceptions may exist where authorized by DOT.) No part of cylinder should be subjected to a temperature higher than 125°F (52°C). Smoking, flames, and electric sparks in the presence of enriched oxygen atmospheres are potential explosion hazards.

HAZARDOUS COMBUSTION PRODUCTS: Not applicable

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: WARNING! High-pressure, oxidizing gas. Shut off flow if without risk. Ventilate area or move cylinder to a well-ventilated area. Remove all flammable materials from vicinity. Oxygen must never be permitted to strike an oily surface, greasy clothes, or other combustible material.

WASTE DISPOSAL METHOD: Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation, away from oil, grease, and other hydrocarbons. Separate oxygen cylinders from flammables by at least 20 ft (6.1 m) or use a barricade of noncombustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least ½ hour. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 125°F (52°C). Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

PRECAUTIONS TO BE TAKEN IN HANDLING: Protect cylinders from damage. Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact your supplier. Never apply flame or localized heat directly to any part of the cylinder. High temperatures may damage the cylinder and could cause the pressure relief device to fail prematurely, venting the cylinder contents. For other precautions in using this mixture, see section 16.

For further information on storage, handling, and use of this product, see NFPA 55, *Standard for the Storage, Use, and Handling of Compressed and Liquefied Gases in Portable Cylinders*, published by the National Fire Protection Association.

8. Exposure Controls/Personal Protection

VENTILATION/ENGINEERING CONTROLS:

LOCAL EXHAUST—Use a local exhaust system, if necessary, to prevent increased oxygen concentration and, in welding, to keep hazardous fumes and gases below applicable TLVs in the worker's breathing zone.

MECHANICAL (general)—General exhaust ventilation may be acceptable if it can maintain a supply of air that is not too rich in oxygen and, during welding, can keep hazardous fumes and gases below applicable TLVs in the worker's breathing zone.

SPECIAL—None

OTHER—None

RESPIRATORY PROTECTION: None required under normal use. However, air-supplied respirators are required while working in confined spaces with this product. For welding, use air-purifying or air-supplied respirators, as appropriate, where local or general exhaust ventilation is inadequate. Adequate ventilation must keep worker exposure below applicable TLVs for fumes, gases, and other by-products of

welding with oxygen. See sections 3, 10, and 16 for details. The respiratory protection used must conform with OSHA rules as specified in 29 CFR 1910.134.

SKIN PROTECTION: Wear work gloves when handling cylinders; welding gloves for welding. Gloves must be free of oil and grease.

EYE PROTECTION: Wear safety glasses when handling cylinders. For welding, wear goggles with filter lens selected as per ANSI Z49.1. Provide protective screens and goggles, if necessary, to protect others. Select as per OSHA 29 CFR 1910.33

OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133. As needed for welding, wear hand, head, and body protection to help prevent injury from radiation and sparks. (See ANSI Z49.1.) At a minimum, this includes welder's gloves and protective goggles, and may include arm protectors, aprons, hats, shoulder protection, as well as substantial clothing. Regardless of protective equipment, never touch live electrical parts.

9. Physical and Chemical Properties

MOLECULAR WEIGHT:	31.9988
SPECIFIC GRAVITY (Air = 1) at 70°F (21.1°C) and 1 atm:	1.105
SOLUBILITY IN WATER , vol/vol at 32°F (0°C):	0.0489
PERCENT VOLATILES BY VOLUME:	100
BOILING POINT at 1 atm:	-297.4°F (-183°C)
FREEZING POINT at 1 atm:	-361.1°F (-218.4°C)
APPEARANCE, ODOR, AND STATE: Colorless, odorless, tasteless gas at normal temperature and pressure.	

10. Stability and Reactivity

STABILITY:	<input type="checkbox"/> Unstable	<input checked="" type="checkbox"/> Stable
INCOMPATIBILITY (materials to avoid): Combustible materials, asphalt, flammable materials, especially oils and greases. Oxygen reacts with many materials.		
HAZARDOUS DECOMPOSITION PRODUCTS: None known.		
HAZARDOUS POLYMERIZATION:	<input type="checkbox"/> May Occur	<input checked="" type="checkbox"/> Will Not Occur
CONDITIONS TO AVOID: None known.		

11. Toxicological Information

The welding process may generate hazardous fumes and gases. (See sections 3, 10, 15, and 16.)

At atmospheric concentration and pressure, oxygen poses no toxicity hazards. At high concentrations, newborn premature infants may suffer delayed retinal damage (retrolental fibroplasia) that can progress to retinal detachment and blindness. Retinal damage may also occur in adults exposed to 100% oxygen for extended periods (24 to 48 hours) or at pressures exceeding atmospheric pressure, particularly in individuals whose retinal circulation has been previously compromised. All individuals exposed for long periods to oxygen at high pressure and all who exhibit overt oxygen toxicity should have ophthalmologic examinations.

At two or more atmospheres, CNS toxicity occurs. Symptoms include nausea, vomiting, dizziness or vertigo, muscle twitching, vision changes, and loss of consciousness and generalized seizures. At three atmospheres, CNS toxicity occurs in less than two hours; at six atmospheres, in only a few minutes.

Patients with chronic obstructive pulmonary disease retain carbon dioxide abnormally. If oxygen is administered, raising their blood-oxygen concentration, their breathing becomes depressed, and retained carbon dioxide rises to a dangerous level.

Animal studies suggest that the administration of certain drugs, including phenothiazine drugs and chloroquine, increases the susceptibility to toxicity from oxygen at high concentrations or pressures. Animal studies also indicate that vitamin E deficiency may increase susceptibility to oxygen toxicity.

Airway obstruction during high oxygen tension may cause alveolar collapse following absorption of the oxygen. Similarly, occlusion of the eustachian tubes may cause retraction of the eardrum and obstruction of the paranasal sinuses may produce vacuum-type headache.

12. Ecological Information

The atmosphere contains approximately 21% oxygen. No adverse ecological effects expected. Oxygen does not contain any Class I or Class II ozone-depleting chemicals. Oxygen is not listed as a marine pollutant by DOT.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier. For emergency disposal, secure cylinder in a well-ventilated area or outdoors; then slowly discharge gas to the atmosphere.

14. Transport Information

DOT/IMO SHIPPING NAME: Oxygen, compressed

HAZARD CLASS: 2.2	IDENTIFICATION NUMBER: UN 1072	PRODUCT RQ: None
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SHIPPING LABEL(s): OXYGEN. An oxygen label may be used for domestic shipment in the United States and Canada in place of the NONFLAMMABLE GAS and OXIDIZER labels (49 CFR Part 172).

PLACARD (when required): NONFLAMMABLE GAS or OXYGEN

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ: None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: No

PRESSURE: Yes

DELAYED: No

REACTIVITY: No

FIRE: Yes

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

Oxygen does not require reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

Oxygen is not listed as a regulated substance.

TSCA: TOXIC SUBSTANCES CONTROL ACT: Oxygen is listed on the TSCA inventory.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

Oxygen is not listed in Appendix A as a highly hazardous chemical.

STATE REGULATIONS:

CALIFORNIA: Oxygen is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: Oxygen is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

16. Other Information

Be sure to read and understand all labels and instructions supplied with all containers of this product.

WARNING: Medical grades of oxygen are subject to strict federal regulations and are for use only under the control of a licensed physician or clinician familiar with the product and its hazards.

ADDITIONAL SAFETY AND HEALTH HAZARDS: *High-pressure, oxidizing gas.* Clean all gauges, valves, regulators, piping, and equipment to be used in oxygen service in accordance with CGA pamphlet G-4.1. Keep cylinders and their valves free of oil and grease. Use piping and equipment adequately designed to withstand pressures to be encountered. Close cylinder valve after each use; keep closed even when empty. *Never use oxygen as a substitute for compressed air.* Never use an oxygen jet for cleaning purposes of any sort, especially for clothing. Oxygen increases the likelihood of an engulfing fire. *Never work on a pressurized system.* If a leak occurs, close the cylinder valve. Blow the system down in a safe and environmentally sound manner in compliance with all federal, state, and local laws; then repair the leak. *Never place a compressed gas cylinder where it may become part of an electrical circuit.*

Personnel who have been exposed to high concentrations of oxygen should stay in a well-ventilated or open area before going into a confined space or near an ignition source.

SPECIAL PRECAUTIONS: *Use in welding and cutting.* Read and understand the manufacturer's instructions and the precautionary label on the product. Ask your welding products supplier for a copy of Praxair's free safety booklet, P-2035, *Precautions and Safe Practices for Gas Welding, Cutting, and heating*, and for other manufacturers' safety publications. For a detailed treatment, get ANSI Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society (AWS), 550 N.W. Le Jeune Rd., Miami, FL 33126, <http://www.aws.org/>, or see OSHA's Web site at <http://www.osha-slc.gov/SLTC/weldingcuttingbrazing/>. Order AWS documents from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112-5710, <http://global.ihs.com/>.

Arcs and sparks can ignite combustible materials. Prevent fires. Refer to NFPA 51B, *Cutting and Welding Processes*. *Do not strike an arc on the cylinder.* The defect produced by an arc burn could lead to cylinder rupture.

MIXTURES: When you mix two or more gases or liquefied gases, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, gases and liquids have properties that can cause serious injury or death.

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH	= 0
FLAMMABILITY	= 0
INSTABILITY	= 0
SPECIAL	= OX (OXidizer)

HMIS RATINGS:

HEALTH	= 0
FLAMMABILITY	= 0
PHYSICAL HAZARD	= 3

STANDARD VALVE CONNECTIONS FOR U.S. AND CANADA:

THREADED:	0-3000 psig	CGA-540
	3001-4000 psig	CGA-577
	4001-5500 psig	CGA-701
PIN-INDEXED YOKE:	0-3000 psig	CGA-870 (Medical Use)
ULTRA-HIGH-INTEGRITY CONNECTION:	0-3000 psig	CGA-714

Use the proper CGA connections. **DO NOT USE ADAPTERS.**

Ask your supplier about free Praxair safety literature as referred to in this MSDS and on the label for this product. Further information about this product can be found in the following pamphlets published by the Compressed Gas Association, Inc. (CGA), 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923, Telephone (703) 788-2700, <http://www.cganet.com/Publication.asp>.

AV-1	<i>Safe Handling and Storage of Compressed Gases</i>
AV-8	<i>Characteristics and Safe Handling of Cryogenic Liquid and Gaseous Oxygen</i>
G-4	<i>Oxygen</i>
G-4.1	<i>Cleaning Equipment for Oxygen Service</i>
P-1	<i>Safe Handling of Compressed Gases in Containers</i>
P-2	<i>Characteristics and Safe Handling of Medical Gases</i>
P-39	<i>Oxygen-Rich Atmospheres</i>
SB-2	<i>Oxygen-Deficient Atmospheres</i>
SB-8	<i>Use of Oxy-Fuel Gas Welding and Cutting Apparatus</i>
V-1	<i>Compressed Gas Cylinder Valve Inlet and Outlet Connections</i>
—	<i>Handbook of Compressed Gases, Fourth Edition</i>

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113



Revision Date: 05/20/2003

Print date: 05/20/2003

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Product name:** Loctite(R) Superflex(R) Black RTV Silicone Adhesive Sealant**Item number:** 59330**Product type:** Silicone**Region:** United States**Company address:**Henkel Loctite Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067
Telephone: (860) 571-5100
Emergency telephone: (860) 571-5100**2. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Silica, amorphous (fumed) 7631-86-9	5-10	6 mg/m ³ TWA	10 mg/m ³ TWA	3 mg/m ³ TWA respirable dust
Ethyltriacetoxysilane 17689-77-9	1-5	None	None	None
Methyltriacetoxysilane 4253-34-3	1-5	None	None	None
Carbon black 1333-86-4	0.1-1	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA	None

Exposure to moisture during cure will release 1-5% acetic acid. The above components are hazardous as defined in 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****HMIS:****Physical state:** Paste
Color: Black
Odor: Acetic Acid**HEALTH:** 2
FLAMMABILITY: 1
PHYSICAL HAZARD: 0
Personal Protection: See Section 8**CAUTION:** MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.**Relevant routes of exposure:** Skin contact, Eye contact, Inhalation**Potential Health Effects****Inhalation:**

Acetic acid produced during cure may irritate eyes, nose and throat. When heated to temperatures exceeding 300° F (150° C) in the presence of air, silicones may form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate the eyes, nose and throat. Safe handling conditions may be maintained by keeping formaldehyde vapor concentrations below the OSHA permissible limit.

Skin contact:

May cause skin irritation.

Eye contact:

Vapors may irritate eyes. Contact with eyes will cause irritation.

Ingestion:

Not expected to be harmful by ingestion.

Item number: 59330**Product name:** Loctite(R) Superflex(R) Black RTV Silicone Adhesive Sealant

Existing conditions aggravated by exposure:

Eye, skin, and respiratory disorders.

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If discomfort persists seek medical attention.
Skin contact:	Wipe off paste with paper towel or cloth. Wash with soap and water.
Eye contact:	Rinse thoroughly with plenty of water, also under the eyelids. If eye irritation persists, consult a specialist.
Ingestion:	Do not induce vomiting. If a person feels unwell or symptoms of skin irritation appear, consult a physician.
Notes to physician:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point:	Greater than 93°C (200°F) Tagliabue closed cup
Autoignition temperature:	Not available
Flammable/Explosive limits-lower %:	Acetic acid: 4%
Flammable/Explosive limits-upper %:	Acetic acid: 19.9% @ 200°F
Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special fire fighting procedures:	None
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Formaldehyde. Silica Mist Acrid smoke and fumes.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Prevent product from entering drains or open waters.
Clean-up methods:	Scrape up as much material as possible. Spilled material will solidify. Store in a closed container until ready for disposal. Maintain good ventilation for large spills.

7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Do not get in eyes. Do not get on skin or clothing. Do not wear contact lenses.
Storage:	Store in a dry area below 90° F Keep container closed.
Incompatible products:	Avoid contact with water Acids. Oxidizing agents.

For information on product shelf life contact Henkel Loctite Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Ensure adequate ventilation.

Item number: 59330

Product name: Loctite(R) Superflex(R) Black RTV Silicone Adhesive Sealant

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Respiratory protection: No personal respiratory protective equipment normally required. Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Skin protection: Chemical resistant, impermeable gloves.

Eye/face protection: Chemical splash goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Paste
Color: Black
Odor: Acetic Acid
Vapor pressure: <10 mmHg @20°C (68° F)
pH: Not applicable
Boiling point/range: Not available
Melting point/range: Not available
Specific gravity: 1.01 at 20 deg. C
Vapor density: Heavier than air
Evaporation rate: Not available
Solubility in water: Insoluble Polymerizes in presence of water
Partition coefficient (n-octanol/water): Not available
VOC content: 4.7%; 47.47 grams/liter

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Acetic acid is liberated slowly upon contact with moisture. Formaldehyde.

Incompatibility: Acids. Bases. Oxidizing agents. Water.

Conditions to avoid: Prolonged heating at temperatures above 150°C °c. Exposure to moisture.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Silica, amorphous (fumed)	No	No	No
Ethyltriacetoxysilane	No	No	No
Methyltriacetoxysilane	No	No	No
Carbon black	No	Group 2B	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Silica, amorphous (fumed)	Nuisance dust
Ethyltriacetoxysilane	No data
Methyltriacetoxysilane	No Target Organs
Carbon black	Respiratory

12. ECOLOGICAL INFORMATION

Ecological information:

No specific studies have been conducted by Loctite on the ecotoxicity or environmental fate of this material; however, commonly available data on the material indicate that uncontrolled releases to soil, groundwater, or surface waters could entail acute and/or chronic ecological effects, depending on the quantity and concentration of such releases. Releases of volatile components to the atmosphere are not believed to entail significant ecological consequences provided such releases are within the exposure levels set forth in this document. Accordingly, all appropriate measures should be taken to avoid uncontrolled releases to the environment, and any spills or other uncontrolled releases which may occur should be contained and cleaned up immediately in accordance with Section 6.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose according to EPA and local governmental regulations. Cured rubber can be incinerated or landfilled following EPA and local regulations.

EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION**U.S. DOT 49 CFR:**

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA):

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG):

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None
Marine pollutant:	None known

15. REGULATORY INFORMATION**United States Regulatory Information**

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: None.
CERCLA/SARA 313: None.

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections:
New Material Safety Data Sheet format.

Prepared by: Lou Fabrizio, Senior Health & Regulatory Affairs Specialist

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Loctite Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Loctite Corporation has no control. It is the user's responsibility to determine the suitability of Henkel Loctite's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Loctite Corporation's products. In light of the foregoing, Henkel Loctite Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Loctite Corporation's products. Henkel Loctite Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.



Barnes Distribution

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Material Safety Data Sheet

MSDS Form No. : KP74730

Item No. : KP74730, KP74730S, KP74731, KP74731-2, KP74731-2S, KP74732, KP74733, KP74734, KP74735

**** MATERIAL SAFETY DATA SHEET ****

SILICONE ADHESIVE SEALANT

Part # KP74730

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: SILICONE ADHESIVE SEALANT

Product CAS: (none)

Product Code:

Synonyms: 74730; 74731; 74732; 74733; 74734; 74735; KP747; KP74730; KP74730S; KP74731;

KP74731-2; KP74731-2S; KP74732; KP74733; KP74734; KP74735; SILICONE ADHESIVE SEALANT

Company Identification:

Name: KAR PRODUCTS

Address: 461 N. THIRD AVE.

Address:

City: DES PLAINES State: IL Zip: 60016

For information, call: 847-296-6111

Emergency Number: 800-752-7869

Emergency Agency:

Number:

MSDS Creation Date: 7/1/2003

Supersedes Date:

Miscellaneous:

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
ETHYLTRIACETOXYSILANE	17689-77-9	0	2
AMORPHOUS SILICA	7631-86-9	0	10
ACETOXYSILANE	N-A	0	5
METHYLTRIACETOXYSILANE	4253-34-3	0	2

Miscellaneous:

CHEMICAL	OSHA PEL	ACGIH TLV	OTHER LIMITS
ACETOXYSILANE	10 PPM	10 PPM	15 PPM STEL
METHYLTRIACETOXYSILANE	-----	-----	-----
ETHYLTRIACETOXYSILANE	-----	-----	-----
AMORPHOUS SILICA	6 MG/M3	10 MG/M3	-----

Lbs of VOC per Gallon Coating (minus water): 0
 Coating Density (lbs/gal): 0
 Solvent Density (lbs/gal): 0
 Percent Solvent (volume): 0
 Percent Solids (volume): 0
 Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 1 Fire: 1 Reactivity: 0 Other:
 HMIS: Health: 1 Fire: 1 Reactivity: 1 Special Protection:

Miscellaneous:
 HAZARD LABEL: CONSUMER COMMODITY

POTENTIAL HEALTH EFFECTS

Target Organs:
 PRIMARY ROUTES OF ENTRY: EYES, INHALATION.

Eye:
 ACUTE AND CHRONIC: EYE IRRITANT. SLIGHT PAIN.

Skin:
 SKIN IRRITANT.SLIGHT REDDENING/IF EXPOSURE IS LOONG OR REPEATED, MILD BURN.

Ingestion:
 CAN CAUSE GASTRIC DISTRESS.

Inhalation:
 WILL CAUSE IRRITANT.

Miscellaneous:

**** SECTION 4 - FIRST AID MEASURES ****

Eye:
 FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES.

Skin:
 WASH SKIN WITH WATER.

Ingestion:

DO NOT INDUCE VOMITING. GASTRIC LAVAGE. IF LARGE AMOUNTS GET MEDICAL AID.

Inhalation:

REMOVE TO FRESH AIR. GIVE OXYGEN.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

NONE.

Special Fire Fighting Procedures:

SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING SHOULD BE WORN IN FIGHTING FIRES INVOLVING CHEMICALS.

Extinguishing Media:

USE WATER, WATER FOG, DRY CHEMICAL OR CO2.

Flash Point:

NE

Flammable Limits:

Lower Limit:

NA

Upper Limit:

NA

AutoIgnition Temperature:

NA

General Information:

FLAMMABLE LIMITS: ND

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS.

Spills/Leaks:

REMOVE PRODUCT AND USE ABSORBENT MATERIAL TO TAKE CARE OF ANY OIL-LIKE RESIDUE.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

USE REASONABLE CARE AND CAUTION.

Storage:

STORE IN A COOL, DRY PLACE. KEEP AWAY FROM HEAT, SPARKS OR OPEN FLAME. STORE AT

TEMPERATURES
BELOW 90 F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
LOCAL EXHAUST: YES
MECHANICAL (GENERAL): RECOMMENDED
SPECIAL VENTILATION: NONE
OTHER VENTILATION: NONE

Eyes:
WEAR EYE PROTECTION. SAFETY GOGGLES.

Skin:
PROTECTIVE GLOVES: CLOTH

Clothing:

Respirators:
ACID GAS/ORGANIC VAPOR TYPE RESPIRATOR UNLESS LOCAL EXHAUST IS ADEQUATE.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:
ACETIC ACID-LIKE PASTE, CLEAR, BLACK, WHITE OR BLUE IN COLOR.

pH: NO DATA
Vapor Pressure: (MMHG) <MM
Vapor Density: (AIR=1): NA
Evaporation Rate: NA
Viscosity:
Boiling Point: 295.0 F
Freezing/Melting Point: NA
Decomposition Temperature:
Solubility: IN WATER: <.1%
Specific Gravity: 1.04
Molecular Formula: N/A
Molecular Weight:
Miscellaneous:
% VOLATILE: 5.0% BYVOLUME

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
STABLE: YES

Conditions to Avoid:
AVOID EXPOSURE TO AIR OR MOISTURE UNTIL READY TO USE.

Incompatibilities with Other Materials:

OXIDIZING MATERIAL CAN CAUSE A REACTION. AIR OR MOISTURE CAUSES CURING AND ACETIC ACID FORMS.

Hazardous Decomposition Products:

SILICON DIOXIDE, CARBON DIOXIDE AND TRACES OF INCOMPLETELY BURNED CARBON PRODUCTS; INCLUDING FOR ALDEHYDE.

Hazardous Polymerization:

WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

WHEN HEATED TO TEMPS ABOVE 150 DEG F IN THE PRESENCE OF AIR, PRODUCT CAN FORM FORMALDEHYDE VAPORS. FORMALDEHYDE IS A POTENTIAL CANCER HAZARD. A KNOWN SKIN AND RESPIRATORY SENSITIZER; AND AN IRRITANT TO THE EYES, NOSE, THROAT, AND DIGESTIVE SYSTEM. SAFE HANDLING CONDITIONS MAY BE MAINTAINED BY KEEPING VAPOR CONCENTRATIONS WITHIN THE OSHA PERMISSIBLE EXPOSURE LIMIT FOR FORMALDEHYDE.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

WHEN SPRAYING MORE THAN ONE HALF CAN CONTINUOUSLY OR MORE THAN ONE CAN CONSECUTIVELY, USE NIOSH APPROVED RESPIRATOR.

Work/Hygienic Practices:

DO NOT SMOKE WHILE USING. WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

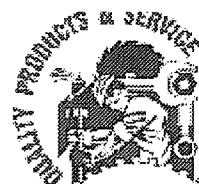
**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : MSDS22023

Item No. : 22023

**** MATERIAL SAFETY DATA SHEET ****

BOWMAN/LOCTITE 5 MINUTE FAST CURE EPOXY

Part # MSDS22023

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BOWMAN/LOCTITE 5 MINUTE FAST CURE EPOXY

Product CAS: (none)

Product Code:

Synonyms: 22023; BOWMAN/LOCTITE 5 MINUTE FAST CURE EPOXY

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: 216-416-7200

Emergency Number: 24 HR: 303-623-5716

Emergency Agency:

Number:

MSDS Creation Date: 1/1/2003

Supersedes Date: 7/25/2000

Miscellaneous:

CHEMICAL FAMILY: EPOXY

FORMULA: 12082

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
EPOXY RESIN	25068-38-6	45	50
ALUMINUM HYDROXIDE, HYDRATED	21645-51-2	45	50
TITANIUM DIOXIDE	13463-67-7	5	10
SILICA, AMORPHOUS TREATED	112945-52-5	1	3
POLYMERCAPTAN	101359-87-9	30	35
SUBSTITUTED AMINOPHENOL	90-72-2	5	10
AROMATIC PLASTICIZER	64741-81-7	5	10
STYRENE MONOMER	100-42-5	3	5
ETHYLENE GLYCOL	107-21-1	1	3
EPICHLOROHYDRIN	106-89-8	0	0

Miscellaneous:

RESIN:

CHEMICAL NAME(S): EPOXY RESIN

% W: 45-50

OSHA PEL: N.E.

ACGIH TLV: N.E.

OTHER LIMITS: N.E.

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): ALUMINUM HYDROXIDE, HYDRATED

% W: 45-50

OSHA PEL: 15 MG/M3 DUST

ACGIH TLV: 10 MG/M3 DUST

OTHER LIMITS: 5 MG/M3 RESP.

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): TITANIUM DIOXIDE

% W: 5-10

OSHA PEL: 15 MG/M3 DUST

ACGIH TLV: 10 MG/M3 DUST

OTHER LIMITS: 5 MG/M3 RESP.

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): SILICA, AMORPHOUS TREATED

% W: 1-3

OSHA PEL: 6 MG/M3 TWA

ACGIH TLV: 10 MG/M3 TWA

OTHER LIMITS: 3 MG/M3 TWA

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

HARDENER:

CHEMICAL NAME(S): ALUMINUM HYDROXIDE, HYDRATED

% W: 45-50

OSHA PEL: 15 MG/M3 DUST

ACGIH TLV: 10 MG/M3 DUST

OTHER LIMITS: 5 MG/M3 RESP.

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): POLYMERCAPTAN

% W: 30-35

OSHA PEL: N.E.

ACGIH TLV: N.E.

OTHER LIMITS: NONE

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): SUBSTITUTED AMINOPHENOL

% W: 5-10

OSHA PEL: N.E.

ACGIH TLV: N.E.

OTHER LIMITS: N.E.

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): AROMATIC PLASTICIZER

% W: 5-10

OSHA PEL: N.E.

ACGIH TLV: N.E.

OTHER LIMITS: N.E.

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): *STYRENE MONOMER

% W: 3-5

OSHA PEL: 100 PM TWA

ACGIH TLV: 50 PPM TWA

OTHER LIMITS: NONE

LISTED AS CARCINOGEN NTP, IARC OR OSHA: IARC: 2B

CHEMICAL NAME(S): SILICA, AMORPHOUS TREATED

% W: 1-3

OSHA PEL: 6 MG/M3 TWA

ACGIH TLV: 10 MG/M3 TWA

OTHER LIMITS: 3 MG/M3 TWA

LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

CHEMICAL NAME(S): * ETHYLENE GLYCOL
% W: 1-3
OSHA PEL: 50 PPM CEILING
ACGIH TLV: 39.4 PPM CEIL
OTHER LIMITS: 100 MG/M3 CEIL
LISTED AS CARCINOGEN NTP, IARC OR OSHA: NO

* ALL CHEMICAL COMPOUNDS MARKED WITH AN ASTERISK (*) ARE TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) OF 1986 AND 40 CFR PART 372.

Lbs of VOC per Gallon Coating (minus water): 0
Coating Density (lbs/gal): 0
Solvent Density (lbs/gal): 0
Percent Solvent (volume): 0
Percent Solids (volume): 0
Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 2 Fire: 1 Reactivity: 1 Other: N.A.
HMIS: Health: 2 Fire: 1 Reactivity: 1 Special Protection:

Miscellaneous:

NFPA RATINGS -

HEALTH: 2/1

FLAMMABILITY: 1/1

REACTIVITY: 1/1

SPECIFIC HAZARD: N.A./N.A.

HMIS RATINGS -

HEALTH: 2/1

FLAMMABILITY: 1/1

REACTIVITY: 1/1

PERSONAL PROTECTION: * / *

(*SEE SECTION 8)

POTENTIAL HEALTH EFFECTS

Target Organs:

PRIMARY ROUTES OF ENTRY: AROMATIC PLASTICIZER. SKIN CONTACT, EYES, INGESTION.

Eye:

HEALTH HAZARDS (ACUTE AND CHRONIC - INCLUDE TARGET ORGAN EFFECTS): EYE IRRITANT.

Skin:

HEALTH HAZARDS (ACUTE AND CHRONIC - INCLUDE TARGET ORGAN EFFECTS): SKIN IRRITANT.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: MAY CAUSE DERMATITIS ON PROLONGED CONTACT IN SENSITIVE INDIVIDUALS.

HEALTH HAZARDS (ACUTE AND CHRONIC - INCLUDE TARGET ORGAN EFFECTS): REPEATED OR PROLONGED

EXPOSURE BY INGESTION MAY CAUSE DELAYED EFFECTS INVOLVING THE BLOOD, GASTROINTESTINAL NERVOUS, AND REPRODUCTIVE SYSTEMS.

Inhalation:

Miscellaneous:

CONDITIONS TO AVOID: KEEP AWAY FROM EYES. AVOID PROLONGED SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE KNOWN.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

FLUSH AT LEAST 15 MINUTES WITH WATER. OBTAIN MEDICAL ATTENTION.

Skin:

FLUSH WITH WATER.

Ingestion:

INDUCE VOMITING. OBTAIN MEDICAL ATTENTION.

Inhalation:

REMOVE TO FRESH AIR. IF SYMPTOMS PERSIST, OBTAIN MEDICAL ATTENTION.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

NONE.

Special Fire Fighting Procedures:

NONE.

Extinguishing Media:

CARBON DIOXIDE, FOAM, DRY CHEMICAL.

Flash Point:

GT 200 F; METHOD USED: TAG CLOSED CUP

Flammable Limits:

Lower Limit:

ETHYLENE GLYCOL - LEL: 3.2%

Upper Limit:

ETHYLENE GLYCOL - UEL: 15.3%

AutoIgnition Temperature:

General Information:

HAZARDOUS PRODUCTS FORMED BY FIRE OR THERMAL DECOMPOSITION: IRRITATING ORGANIC VAPOR.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

INCINERATE FOLLOWING EPA AND LOCAL REGULATIONS.

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33): NOT AVAILABLE.

Spills/Leaks:

SOAK UP IN AN INERT ABSORBENT. STORE IN A PARTLY FILLED, CLOSED CONTAINER UNTIL DISPOSAL.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Storage:

STORE BELOW 100 F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

VENTILATION -

LOCAL EXHAUST (SPECIFY RATE): SUFFICIENT TO MAINTAIN VAPOR CONCENTRATION BELOW
MECHANICAL (GENERAL) (SPECIFY RATE): SUFFICIENT TO MAINTAIN VAPOR CONCENTRATION
BELOW TLV.

SPECIAL: NONE.

OTHER: NONE.

Eyes:

(SPECIFY TYPE): SAFETY GLASSES OR GOGGLES RECOMMENDED.

Skin:

PROTECTIVE GLOVES (SPECIFY TYPE): RUBBER OR PLASTIC GLOVES RECOMMENDED.

Clothing:

OTHER PROTECTIVE EQUIPMENT: NONE.

Respirators:

(SPECIFY TYPE): NOT NORMALLY NEEDED.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

RESIN APPEARANCE: WHITE PASTE, BLACK PASTE.

RESIN ODOR: MILD.

HARDENER ODOR: DISAGREEABLE.

pH: N.A.

Vapor Pressure: @ 80 F: LT 5 MM HG

Vapor Density: (AIR=1): NOT AVAILABLE

Evaporation Rate: (ETHER=1): NOT AVAILABLE

Viscosity:

Boiling Point: GT 300 F

Freezing/Melting Point:

Decomposition Temperature:

Solubility: IN WATER: SLIGHT

Specific Gravity: 1.68

Molecular Formula:

Molecular Weight:

Miscellaneous:

SPECIFIC GRAVITY (H2O=1) RESIN/HARDENER: 1.68/1.40

VOLATILE ORGANIC COMPOUND (EPA METHOD 24) RESIN/HARDENER: 0.47% / 14.3%

MAXIMUM PERCENT VOC BY WEIGHT (%): % N.D.; METHOD USED: CALCULATED.

PERCENT SOLID BY WEIGHT (%): N.D.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE

Conditions to Avoid:

Incompatibilities with Other Materials:

NONE

Hazardous Decomposition Products:

NONE

Hazardous Polymerization:

WILL NOT OCCUR

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

MAY BE A POTENTIAL HUMAN SKIN CARCINOGEN. WARNING: THIS PRODUCT CONTAINS A
CHEMICAL KNOWN TO
THE STATE OF CALIFORNIA TO CAUSE CANCER. EPICHLOROHYDRIN.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

KEEP AWAY FROM EYES. AVOID PROLONGED SKIN CONTACT.

Work/Hygienic Practices:

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO.
(49 CFR
172.101): UNRESTRICTED.

ADDITIONAL HAZARD CLASSES (AS APPLICABLE): UNRESTRICTED.

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

CERCLA (SUPERFUND) REPORTABLE QUANTITY (IN LBS): NOT AVAILABLE.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

N.A. - NOT APPLICABLE

N.E. - NOT ESTABLISHED

N.D. - NOT DETERMINED



Revision Date: 01/25/2006

Issue date: 02/08/2006

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Thread Sealant with PTFE
Product type: Sealant
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067

Item No. : 30561
Region: United States
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Isopropyl alcohol 67-63-0	30-60	200 ppm TWA 400 ppm STEL	400 ppm TWA 980 mg/m ³ TWA	None
Talc 14807-96-6	10-30	2 mg/m ³ TWA respirable fraction, particulate matter containing no asbestos and < 1% crystalline silica	= 20 mppcf TWA	50 ppm
Castor Oil	10-30	None	None	None
Vinyl terpolymer 27360-07-2	10-30	None	None	None
Titanium dioxide 13463-67-7	1-5	10 mg/m ³ TWA	15 mg/m ³ TWA total dust	None
Poly(tetrafluoroethylene) 9002-84-0	1-5	None	None	AEL (DuPont): 10 mg/m ³ , 8 Hr TWA, total dust; 5mg/m ³ , 8 hr. TWA respirable dust
Silica, quartz 14808-60-7	0.1-1	0.05 mg/m ³ TWA respirable fraction	0.1mg/m ³ TWA (respirable)	None

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****HMIS:**

Physical state: Paste
Color: White
Odor: Alcoholic

HEALTH: 2*
FLAMMABILITY: 3
PHYSICAL HAZARD: 0
Personal Protection: See Section 8

WARNING: FLAMMABLE LIQUID AND VAPOR.
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Inhalation, Ingestion, Eye contact, Skin contact

Potential Health Effects

Inhalation: Vapors may cause headaches, nausea, dizziness and respiratory tract irritation.
Skin contact: Irritating to skin.
Eye contact: Vapors may irritate eyes. Contact with eyes will cause irritation.
Ingestion: Contains material that may be slightly toxic.

Item No. : 30561

Product name: Thread Sealant with PTFE

Existing conditions aggravated by exposure:

Eye, skin, and respiratory disorders.

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If discomfort persists seek medical attention.

Skin contact: Wash with soap and water.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.

5. FIRE-FIGHTING MEASURES

Flash point: 23.3°C (74°F) Tagliabue closed cup

Autoignition temperature: 398.3°C (750°F) estimated

Flammable/Explosive limits-lower %: 2.3 %

Flammable/Explosive limits-upper %: 12.7 %

Extinguishing media: Use dry chemical, CO2, water spray or 'alcohol' foam.

Special fire fighting procedures: N/A

Unusual fire or explosion hazards: None

Hazardous combustion products: Toxic fluorides.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: Remove sources of ignition. Ventilate area.

Clean-up methods: Remove all sources of ignition. Ventilate area. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Contain the spill in a closed container until disposal.

7. HANDLING AND STORAGE

Handling: Keep away from heat, spark and flame. Do not get in eyes.

Storage: Store away from heat, sparks, flames, or other sources of ignition.

Incompatible products: Oxidizing agents.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use local exhaust ventilation to maintain airborne concentrations below established exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Skin protection: Chemical resistant, impermeable gloves.

Item No. : 30561

Product name: Thread Sealant with PTFE

Eye/face protection: Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Paste
Color: White
Odor: Alcoholic
Vapor pressure: 33 mmHg @20°C (68° F)
pH: Not applicable
Boiling point/range: 82.2°C (180°F)
Melting point/range: Not determined
Specific gravity: 1.12 at 25°C (77°F)
Vapor density: 2.07
Evaporation rate: 7.7 (Ether = 1)
Solubility in water: Partial
Partition coefficient (n-octanol/water): Not determined
VOC content: 35.9782%; 343.4283 grams/liter

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Toxic fluorides.

Incompatibility: Oxidizing agents.

Conditions to avoid: Heat, flames, sparks and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Isopropyl alcohol 67-63-0	No	No	No
Talc 14807-96-6	No	No	No
Castor Oil	No	No	No
Vinyl terpolymer 27360-07-2	No	No	No
Titanium dioxide 13463-67-7	No	No	No
Poly(tetrafluoroethylene) 9002-84-0	No	No	No
Silica, quartz 14808-60-7	Known Carcinogen	Group 1	Yes

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Isopropyl alcohol 67-63-0	Allergen, Blood, Central nervous system, Irritant, Kidney, Liver, Brain, Spleen
Talc 14807-96-6	Some evidence of carcinogenicity, Lung, Irritant
Castor Oil	Irritant
Vinyl terpolymer 27360-07-2	No data
Titanium dioxide 13463-67-7	Irritant, Respiratory
Poly(tetrafluoroethylene) 9002-84-0	No Target Organs
Silica, quartz 14808-60-7	Some evidence of carcinogenicity, Lung, Immune system

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: D001: Ignitable.

14. TRANSPORT INFORMATION

The shipping classifications in this section are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: RESIN SOLUTION
 Hazard class or division: 3
 Identification number: UN 1866
 Packing group: III
 Exceptions: Consumer Commodity ORM-D (Not more than 5L)

International Air Transportation (ICAO/IATA):

Proper shipping name: RESIN SOLUTION
 Hazard class or division: 3
 Identification number: UN1866
 Packing group: III
 Exceptions: Consumer Commodity, ID 8000, Class 9 (Not more than 500 ml)

Water Transportation (IMO/IMDG):

Proper shipping name: RESIN SOLUTION
 Hazard class or division: 3
 Identification number: UN 1866
 Packing group: III

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification:	Not available
CERCLA/SARA Section 302 EHS:	None above reporting de minimus.
CERCLA/SARA Section 311/312:	Immediate Health Hazard, Delayed Health Hazard, Fire
CERCLA/SARA 313:	None above reporting de minimus.
California Proposition 65:	This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL Status:	One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.
WHMIS hazard class:	B.2, D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 9

Prepared by: Dan Shaw, Product Safety and Regulatory Affairs Specialist

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Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : MSDS22006

Item No. : 22006

**** MATERIAL SAFETY DATA SHEET ****

BOWMAN/LOCTITE HIGH STRENGTH THREAD LOCKER.

Part # MSDS22006

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BOWMAN/LOCTITE HIGH STRENGTH THREAD LOCKER.

Product CAS: (none)

Product Code:

Synonyms: 22006; BOWMAN/LOCTITE HIGH STRENGTH THREAD LOCKER.

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: HEALTH ISSUES AND TECHNICAL INFORMATION (8AM-5PM ET): 1-216-416-7200 X 5

60

Emergency Number: ROCKY MOUNTAIN POISON CONTROL CENTER (24 HOURS EVERYDAY): 1-303-623-5716

Emergency Agency: CHEMTREC (24 HOURS EVERYDAY)

Number: 1-800-424-9300

MSDS Creation Date: 12/10/2004

Supersedes Date: 1/1/2003

Miscellaneous:

PRODUCT NAME: BOWMAN/LOCTITE (R) HIGH STRENGTH THREAD LOCKER.

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
POLYGLYCOL DIMETHACRYLATES	25852-47-5	60	100
BISPHENOL A FUMARATE RESIN	39382-25-7	10	30
SACCHARIN	81-07-2	1	5
CUMENE HYDROPEROXIDE	80-15-9	1	3

Miscellaneous:

NOTE: SEE BELOW FOR EXPOSURE LIMIT DATA FOR THESE INGREDIENTS.

EXPOSURE CONTROLS:

INGREDIENT	OSHA PEL	ACGIH TLV	OTHER LIMITS
POLYGLYCOL DIMETHACRYLATE	N.E.	N.E.	N.E.
BISPHENOL A FUMARATE RESIN	N.E.	N.E.	N.E.
SACCHARIN	N.E.	N.E.	N.E.
CUMENE HYDROPEROXIDE	N.E.	N.E.	1 PPM (6 MG/M3) SKIN (WEEL)

Lbs of VOC per Gallon Coating (minus water): 1.1
 Coating Density (lbs/gal): 0
 Solvent Density (lbs/gal): 0
 Percent Solvent (volume): 0
 Percent Solids (volume): 0
 Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: Fire: Reactivity: Other:
 HMIS: Health: 2 Fire: 1 Reactivity: 1 Special Protection: *

Miscellaneous:

POTENTIAL HEALTH EFFECTS

Target Organs:
 PRIMARY ROUTES OF EXPOSURE: NONE KNOWN.

Eye:
 SEE "MISCELLANEOUS".

Skin:
 SIGNS AND SYMPTOMS OF OVEREXPOSURE CHRONIC HEALTH HAZARDS: MAY CAUSE DERMATITIS ON
 PROLONGED
 CONTACT IN SENSITIVE INDIVIDUALS.

SEE "MISCELLANEOUS".

Ingestion:
 SEE "MISCELLANEOUS".

Inhalation:

Miscellaneous:
 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE KNOWN.

HEALTH HAZARDS (ACUTE AND CHRONIC-INCLUDE ORGAN EFFECTS): EYE IRRITANT. ESTIMATED
 ORAL LD50

MORE THAN 5000 MG/KG. ESTIMATED DERMAL LD50 MORE THAN 200 MG/KG.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

CONTACT: FLUSH AT LEAST 15 MINUTES WITH WATER. OBTAIN MEDICAL ATTENTION.

Skin:

CONTACT: FLUSH WITH WATER.

Ingestion:

DO NOT INDUCE VOMITING. KEEP INDIVIDUAL CALM. OBTAIN MEDICAL ATTENTION.

Inhalation:

DOES NOT APPLY.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

NONE.

Special Fire Fighting Procedures:

NONE.

Extinguishing Media:

CO2, FOAM, DRY CHEMICAL.

Flash Point:

GT 200 DEG F; METHOD USED: T.C.C.

Flammable Limits:

Lower Limit:

N/A

Upper Limit:

N/A

AutoIgnition Temperature:

N/A

General Information:

FLAMMABILITY LIMITS (%): NOT AVAILABLE.

HAZARDOUS PRODUCTS FORMED BY FIRE OR THERMAL DECOMP: IRRITATING ORGANIC VAPORS.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

WASTE DISPOSAL METHOD INCINERATE IN ACCORDANCE WITH EPA AND LOCAL REGULATIONS.

RCRA HAZARDOUS WASTE NUMBER: NH - NOT A RCRA HAZARDOUS MATERIAL.

Spills/Leaks:

SOAK UP IN AN INERT ABSORBENT. STORE IN A PARTLY FILLED, CLOSED CONTAINER UNTIL DISPOSAL.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

SEE "STORAGE".

Storage:

STORE BELOW 110 DEG F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST: DOES NOT APPLY.

Eyes:

SAFETY GLASSES OR GOGGLES.

Skin:

PROTECTIVE GLOVES: NEOPRENE, RUBBER OR BUTYL RUBBER GLOVES.

Clothing:

Respirators:

NOT AVAILABLE.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

RED LIQUID, MILD ODOR.

pH: N/A

Vapor Pressure: 80 DEG F @ 1T 5 MMHG.

Vapor Density: (AIR = 1): NOT AVAILABLE.

Evaporation Rate: (ETHER=1):N/A

Viscosity: N/A

Boiling Point: GT 300 DEG F.

Freezing/Melting Point: N/A

Decomposition Temperature: N/A

Solubility: IN WATER: SLIGHT.

Specific Gravity: 1.10

Molecular Formula: N/A

Molecular Weight: N/A

Miscellaneous:

MATERIAL IS: LIQUID.

% SOLID BY WEIGHT: N.D.

SPECIFIC GRAVITY (WATER = 1): 1.10 @ 80 DEG F.

VOC (EPA METHOD 24): 12.0%, 132 G/L.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
STABLE.

Conditions to Avoid:
STABILITY: DOES NOT APPLY.

POLYMERIZATION: DOES NOT APPLY.

Incompatibilities with Other Materials:
AND CONDITIONS TO AVOID: NONE.

Hazardous Decomposition Products:
(NON-THERMAL): NONE.

Hazardous Polymerization:
WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:
SEE SECTION 3, "POTENTIAL HEALTH EFFECTS".

CARCINOGENICITY: SACCHARIN: IARC - 2B.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:
NO DATA AVAILABLE.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:
AVOID PROLONGED SKIN CONTACT. KEEP AWAY FROM EYES.

Work/Hygienic Practices:

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
DOT PROPER SHIPPING NAME: UNRESTRICTED.

HAZARD CLASS OR DIVISION: UNRESTRICTED.

CARTON MARKINGS: NONE.

IDENTIFICATION NUMBER: NONE.

PACKING GROUP: NONE.

LABELS: NONE.

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

TSCA STATUS: ALL COMPONENTS ARE EITHER LISTED ON, OR ARE EXEMPT FROM LISTING ON THE TSCA INVENTORY.

NSR STATUS (CANADA): NOT AVAILABLE.

SARA TITLE III:

HAZARD CATEGORIES:

ACUTE HEALTH: YES

CHRONIC HEALTH: YES

FIRE HAZARD: NO

PRESSURE HAZARD: NO

REPORTABLE INGREDIENTS:

SECTION 302/303: NONE

SECTION 313: CUMENE HYDROPEROXIDE.

EXTREMELY HAZARDOUS SUBSTANCES: NONE.

CERCLA RQ: GT 390 LBS.

CALIFORNIA PROPOSITION 65: THIS PRODUCT CONTAINS SACCHARIN. NO PROP 65 WARNING IS NECESSARY

OF THIS PRODUCT IS USED AS REASONABLY ANTICIPATED.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

N.A. - NOT APPLICABLE N.D. - NOT DETERMINED N.E. - NOT ESTABLISHED



Revision Date: 12/10/2004

Issue date: 12/13/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite(R) 262 Threadlocker High Strength
Product type: Anaerobic Sealant
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067

Item No. : 26231
Region: United States
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous components</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Polyglycol dimethacrylate 25852-47-5	60-100	None	None	None
Bisphenol A fumarate resin 39382-25-7	10-30	None	None	None
Saccharin 81-07-2	1-5	None	None	None
Cumene hydroperoxide 80-15-9	1-5	None	None	1 ppm (6 mg/m ³) Skin (WEEL)

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****HMIS:**

Physical state: Liquid
Color: Red
Odor: Mild

HEALTH: 2*
FLAMMABILITY: 1
PHYSICAL HAZARD: 1
Personal Protection: See Section 8

WARNING: CAUSES EYE IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
MAY CAUSE SKIN IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes, Respiratory system

Potential Health Effects

Inhalation: May cause respiratory tract irritation.
Skin contact: May cause allergic skin reaction. May cause skin irritation with discomfort or rash.
Eye contact: Contact with eyes will cause irritation.
Ingestion: May be harmful if swallowed.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation:	Remove to fresh air. If symptoms develop and persist, get medical attention.
Skin contact:	Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur.
Eye contact:	Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.
Ingestion:	Do not induce vomiting. Keep individual calm. Obtain medical attention.

5. FIRE-FIGHTING MEASURES

Flash point:	Greater than 93°C (200°F) Tagliabue closed cup
Autoignition temperature:	Not available
Flammable/Explosive limits-lower %:	Not available
Flammable/Explosive limits-upper %:	Not available
Extinguishing media:	If product is involved in fire extinguish with dry powder, foam or carbon dioxide.
Special fire fighting procedures:	Wear self contained breathing apparatus
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Thermal decomposition can lead to release of irritating gases and vapors. Oxides of carbon. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions:	Ventilate area. Prevent product from entering drains or open waters.
Clean-up methods:	Scrape up spilled material and place in sealed container for disposal.

7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling.
Storage:	For safe storage, store at or below 38°C (100°F). Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.
Incompatible products:	Refer to Section 10.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls:	No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

Eye/face protection:

Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Red
Odor:	Mild
Vapor pressure:	Less than 5 mm Hg at 27°C (80°F)
pH:	Not applicable
Boiling point/range:	Greater than 149°C (300°F)
Melting point/range:	Not available
Specific gravity:	1.05
Vapor density:	Not available
Evaporation rate:	Not available
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available
VOC content:	13.5%; 142 grams/liter (EPA Method 24)

10. STABILITY AND REACTIVITY

Stability:	Stable.
Hazardous polymerization:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapors. Phenols.
Incompatibility:	Iron. Copper. Rust. Aluminum. Zinc. Reducing agents. Strong acids and oxidizing agents Oxygen scavengers. Strong alkalis.
Conditions to avoid:	See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Product toxicity data: Acute oral LD50 greater than 10, 000 mg/kg (rat). Acute dermal LD50 greater than 5000 mg/kg (rabbit).

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Polyglycol dimethacrylate 25852-47-5	No	No	No
Bisphenol A fumarate resin 39382-25-7	No	No	No
Saccharin 81-07-2	No	No	No
Cumene hydroperoxide 80-15-9	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Polyglycol dimethacrylate 25852-47-5	Allergen, Irritant
Bisphenol A fumarate resin 39382-25-7	Allergen, Irritant
Saccharin 81-07-2	No Target Organs
Cumene hydroperoxide 80-15-9	Allergen, Central nervous system, Corrosive, Irritant, Mutagen

12. ECOLOGICAL INFORMATION

Ecological information: Not available

Item No. : 26231

Product name: Loctite(R) 262 Threadlocker High Strength

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG):

Proper shipping name: Unrestricted
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None above reporting de minimus.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9) .

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: Expanded chemical information in Section 2 and related sections.

Prepared by:

Kyra Kozak Woods, Health and Regulatory Affairs Specialist

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Material Safety Data Sheet

HMIS

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

HEALTH

2

REACTIVITY

0

FLAMMABILITY

1

PERSONAL PROTECTION

B

Identity (As Used on Label and List) EPA Reg. No. 55195-4-11694
90301, 90356, 90365, 90391

Medaphene® SCRUBS® Disinfectant/Deodorizing Wipes

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

SECTION I

Manufacturer's Name ITW Dymon	Emergency Telephone Number 1-800-535-5053
Address (Number, Street, City, State, and ZIP Code) 805 East Old 56 Highway Olathe, Kansas 66061	Telephone Number for Information 1-913-397-9889 Date Prepared October 12, 2005 Signature of Preparer (Optional) Regulatory Dept.

SECTION II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	CAS No.	OSHA PEL	ACGIH-TLV	Other Limits Recommended	% (Opt.)
Isopropyl Alcohol	67-63-0	400 ppm	400 ppm	500 (STEL)	1-5%

This product is not known to contain any compound listed and in quantities requiring reporting under SARA Title III Section 313.

TSCA: All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

Any substance listed as hazardous by the States of California, Florida, Illinois, Michigan, New Jersey, Ohio, Pennsylvania or Texas is described above if known present in regulated concentrations.

SECTION III Physical/Chemical Characteristics

Boiling Point Concentrate	212 °F (100 °C)	Specific Gravity (H₂O = 1) @70 °F	0.999
Vapor Pressure (mm-Hg @ 70 °F)	No Data	Melting Point	No Data
Vapor Density (AIR = 1)	Greater than one(1)	Evaporation Rate (Butyl Acetate = 1)	No Data
Solubility in Water	Complete	pH	4.0 + 0.5
Appearance and Odor - Clear colorless liquid with a floral scent on a towel.	VOC's --This product contains 18.2 grams per liter or 1.8 % by weight VOC's.		

SECTION IV - Fire and Explosion Hazard Data

Flash Point Concentrate (Method Used) None to boiling point (PMCC - est.)	Flammable Limits No Data	LEL No Data	UEL No Data
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Extinguishing Media - Not usually necessary as this product does not readily support combustion. Use media appropriate for fire's fuel source.

Special Fire Fighting Procedures - Keep containers cool and vapors down with water spray. Prevent runoff from entering sewers and public waterways. Wear SCBA in chemical fires.

Unusual Fire and Explosion Hazards -

None known.

SECTION V - Reactivity Data

Stability	Unstable		Conditions to Avoid - Do not use near open flame.
	Stable	X	

Incompatibility (Materials to Avoid) -

Strong oxidizers, acids and alkalies, ketones, nitric acid, sulfuric acid, halogens and halogenated compounds.

Hazardous Decomposition or Byproducts -

Carbon dioxide, carbon monoxide, oxides of sulfur, smoke, soot and various organic oxidation by-products.

Hazardous	May Occur		Conditions to Avoid - None known
Polymerization	Will Not Occur	X	

SECTION VI - Health Hazard Data

Route(s) of Entry	Eyes?	Inhalation?	Skin?	Ingestion?
	Yes	Yes	Yes	Yes

Health Hazards (Acute and Chronic) - Caution. May be irritating to eyes. Harmful if swallowed. May be harmful if inhaled. Repeated dermal contact may result in dermal sensitization in some individuals. Follow good chemical hygiene practices to avoid these hazards.

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
None known	No	No	No

Prop 65 WARNING: This product contains a chemical (o-Phenylphenol) known to the State of California to cause cancer.

Signs and Symptoms of Exposure -

Redness, tearing or burning in eyes. Redness, drying, yellowing or cracking skin.

Medical Conditions Generally Aggravated by Exposure -

Pre-existing skin disorders may be adversely affected. Follow good chemical hygiene practices to avoid this hazard.

Emergency and First Aid Procedures: - Eyes - If in eyes, immediately flush with water for at least 15 minutes. Get medical attention.

Ingestion - Unlikely exposure route, wet towlette. **Inhalation -** Get to fresh air. If breathing has stopped, qualified personnel should administer artificial respiration. **Skin -** If on skin, wash thoroughly with water. Wash contaminated clothing before reuse. Wash thoroughly after handling wipes.

SECTION VII - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled - Caution, slip hazard. For small spills, wipe up promptly with an absorbant material. For large spills, isolate area. Dike area to prevent spreading. Stay upwind. Eliminate ignition sources. Wear protective gear as required. Pick up on absorbent material. Put in suitable container for proper disposal.

Waste Disposal Method - Consult local, state, and federal regulations. Do not reuse wipes. Dispose of used wipe in trash. Triple rinse empty container then offer for recycling or discard in trash.

Precautions to be Taken in Handling and Storing - Do not get in eyes, on skin or on clothing. Avoid contamination of food. Avoid reuse of unwashed disinfectant-soaked gloves. Avoid prolonged inhalation. Wash thoroughly after handling wipes. Keep container tightly sealed when not in use. Store indoors in a dry area.

Other Precautions - Follow label directions carefully. Keep out of reach of children. Keep container tightly sealed when not in use. Do not contaminate water or feed by use or storage. Do not smoke while using. Keep from freezing. Use from original container only. Do not store with fertilizers, seeds, insecticides or fungicides.

SECTION VIII - Control Measures**Respiratory Protection (Specify Type) -**

Not usually necessary. Use with adequate ventilation. Use NIOSH/MSHA approved respirator if PELs or TLVs are exceeded.

Ventilation	Local Exhaust	Not usually needed	Special	None
	Mechanical (General)	Yes	Other	None

Protective Gloves -

Yes, impervious

Eye Protection -

See Special Instructions on label.

Other Protective Clothing or Equipment -

See Special Instructions on label.

Work/Hygienic Practices -

Follow label instructions. Wash hands after use and before eating, drinking, smoking, using restrooms, etc.

WARNING: The use of this product is beyond the control of the manufacturer; therefore, no guarantee, expressed or implied, is made as to the effects of such use or the results to be obtained if not used in accordance with directions or established safe practice. The user must assume all responsibility, including injury or damage, resulting from its misuse or such use in combination with other materials. The manufacturer warrants only that this product meets the manufacturer's specifications for such product. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AS TO DESCRIPTION, QUALITY, MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, PRODUCTIVENESS, OR ANY OTHER MATTER OF THIS PRODUCT. THE MANUFACTURER SHALL BE IN NO WAY RESPONSIBLE FOR THE IMPROPER USE OF THIS PRODUCT. The sole and exclusive remedy against the manufacturer for breach of warranty shall be reimbursement of the purchase price of the product in the event that a defective condition of the product shall be found to exist. NO OTHER REMEDY (INCLUDING BUT NOT LIMITED TO INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE.

Click [here](#) to go back to MSDS



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : KP78607
Item No. : KP78607

**** MATERIAL SAFETY DATA SHEET ****

SUPER RUST PENETRANT

Part # KP78607

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: SUPER RUST PENETRANT
Product CAS:
Product Code:
Synonyms: KP78607; SUPER RUST PENETRANT
Company Identification:
Name: KAR PRODUCTS
Address: 461 N. THIRD AVE.
Address:
City: DES PLAINES State: IL Zip: 60016
For information, call: 800-527-7763
Emergency Number:
Emergency Agency:
Number:
MSDS Creation Date: 6/3/2004
Supersedes Date: 11/25/2003

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
DEODORIZED KEROSENE	64742-47-8	60	70
STODDARD SOLVENT	8052-41-3	10	20
PROPANE	68476-85-7	10	20

Miscellaneous:

CHEMICAL	SARA SEC 313	ACGIH TLV-TWA/STEL	OSHA PEL-TWA/STEL
DEODORIZED KEO	NO	100 PPM*/NE	NE/NE
STODDARD SOL	NO	100 PPM/NE	500 PPM/NE
PROPANE	NO	2500 PPM/NE	1000 PPM/NE

*SUPPLIER RECOMMENDATION

BALANCE OF INGREDIENTS ARE NON-HAZARDOUS OR BELOW REPORTABLE LEVELS.

Lbs of VOC per Gallon Coating (minus water): 0
Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0
Percent Solvent (volume): 0
Percent Solids (volume): 0
Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: Fire: Reactivity: Other:
HMIS: Health: 2 Fire: 4 Reactivity: 1 Special Protection: B

POTENTIAL HEALTH EFFECTS

Target Organs:

Eye:
MAY CAUSE MODERATE IRRITATION.

Skin:
MAY CAUSE MILD IRRITATION.

Ingestion:
MAY CAUSE NAUSEA, VOMITING, PAIN AND STOMACH UPSET (DIARRHEA.

Inhalation:
IRRITATING TO EYES, NOSE AND RESPIRATORY TRACT. CAN CAUSE DIZZINESS, HEADACHES AND
INCOORDINATI
N.

Miscellaneous:
CHRONIC EFFECTS/TARGET ORGANS: LIVER, KIDNEY, LUNG AND OR RESPIRATORY SYSTEM

**** SECTION 4 - FIRST AID MEASURES ****

Eye:
FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

Skin:
IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

Ingestion:
GET IMMEDIATE MEDICAL ATTENTION. DO NOT INDUCE VOMITING UNLESS DIRECTED BY MEDICAL
PERSONNEL.
NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Inhalation:
REMOVE TO FRESH AIR. IF SYMPTOMS DEVELOP, SEEK MEDICAL ATTENTION. IF NOT BREATHING
GIVE
ARTIFICAL RESPIRATION.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

FIRE FIGHTERS AND OTHERS WHO MAY BE EXPOSED TO THE PRODUCTS OF COMBUSTION SHOULD BE EQUIPPED WITH NIOSH-APPROVED POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA) AND FULL PROTECTIVE CLOTHING. AT ELEVATED TEMPERATURES (OVER 54C-130C) CONTAINERS EXPOSED TO DIRECT FLAME OR HEAT CONTACT SHOULD BE COOLED WITH WATER TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

Special Fire Fighting Procedures:

CONTAINERS SHOULD BE COOLED WITH WATER TO PREVENT PRESSURE BUILD UP. USE EQUIPMENT OR SHEILDING, AS REQUIRED, TO PROTECT PERSONNEL FROM BURSTING, REPTURING OR VENTING CONTAINERS.

Extinguishing Media:

CARBON DIOXIDE, WATER SPRAY, FOAM, OR DRY CHEMICAL

Flash Point:

SEE GENERAL INFOR

Flammable Limits:

Lower Limit:

2.2

Upper Limit:

9.5

AutoIgnition Temperature:

N/A

General Information:

FLASHPOINT: <F (PROPELLANT) >04F (CONCENTRATE)

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DO NOT PUNCTURE OR INCINERATE CONTAINERS. DISPOSE OF CONTAINER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS

Spills/Leaks:

REMOVE ALL SOURCES OF IGNITION AND VENTILATE AREA. SOAK UP SPILL WITH AN INERT ABOSRBENT AND PLACE INTO A DESIGNATED DISPOSAL CONTAINER.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

AVOID BREATHING VAPORS,

Storage:

STORE TEMPS ABOVE 120 DEG F 48.6 C STORE A LEVEL 3 NFPA 30B

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Eyes:

SAFETY GLASSES.

Skin:

USE PROTECTIVE GLOVES. CHEMICAL RESISTANT.

Clothing:

WEAR IMPERVIOUS CLOTHING TO PREVENT SKIN CONTACT.

Respirators:

NONE OF GOOD VENTILATION IS MAINTAINED.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

AEROSOL SPRAY WITH CHARACTERISTIC ODOR.

pH:

Vapor Pressure: (PSIG) 98@130F/45@ 70F

Vapor Density: ND

Evaporation Rate: ND

Viscosity: NA

Boiling Point: NA

Freezing/Melting Point: NA

Decomposition Temperature: NA

Solubility: IN WATER: NEL

Specific Gravity: .7657

Molecular Formula: NA

Molecular Weight:

Miscellaneous:

VOC 91.2%

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE

Conditions to Avoid:

KEEP AWAY FROM HEAT, SPARKS, FLAMES AND ELECTRIC ARCS. DROPPING OF CONTAINERS MAY CAUSE BURSTING.

Incompatibilities with Other Materials:

OXIDIZING AGENTS, REDUCING AGENTS, ACIDS, BASES.

Hazardous Decomposition Products:

CARBON MONOXIDE, CARBON DIOXIDE.

Hazardous Polymerization:

N/A

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

TOXICITY INFORMATION: DEODORIZED KEROSENE:

LD50 ORAL (RAT): >9,000 MG/KG LD50 DERMAL (RABBIT): 2000-4000 MG/KG

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

NO DATA

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

NO DATA

Work/Hygienic Practices:

WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

NO DATA

Label Information:

NO DATA

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

STATE RIGHT-TO-KNOW: PENNSYLVANIA/NEW JERSEY RIGHT TO KNOW: DEODORIZED KEROSENE,
STODDARD

SOLVENT, HYDROTREATED HEAVY NAPHTHENIC DISTILLATES, PROPANE.

TOXIC SUBSTANCE CONTROL ACT (TSCA): INGREDIENTS OF THIS PRODUCT ARE LISTED ON THE
EPA/TSCA

INVENTORY OF CHEMICAL SUBSTANCES.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

NO DATA

Click [here](#) to go back to MSDS



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : 8808159
Item No. : 8889490

**** MATERIAL SAFETY DATA SHEET ****

QUIK-EAS CUTTING/DRILLING LUBE

Part # 8808159

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: QUIK-EAS CUTTING/DRILLING LUBE
Product CAS: (none)
Product Code:
Synonyms: 8889490; QUIK-EAS CUTTING/DRILLING LUBE
Company Identification:
Name: Aerosol Systems, Inc.
Address: 9150 Valley View Road
Address:
City: Macedonia State: OH Zip: 44056
For information, call: (216) 467-4195
Emergency Number:
Emergency Agency:
Number:
MSDS Creation Date: 6/13/94
Supersedes Date:
Miscellaneous:
PRODUCT/TRADE NAME(S) : 8889490, CUTTING OIL TM 793.

CAS #: N/A

CHEMICAL NAME: N/A

BRIEF DESCRIPTION: N/A

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
NAPHTHENIC OIL	64742-75-2	88	88
PETROLEUM OIL	68815-10-1	88	88
PROPANE/ISOBUTANE/N-BUTANE	74-98-6	20	20

Miscellaneous:

HAZARDOUS INGREDIENTS:

PETROLEUM OIL: ACGIH TLV: 5 MG/M3 OIL MIST.

NAPHTHENIC OIL: ACGIH TLV: 5 MG/M3 OIL MIST.

PROPANE/ISOBUTANE/N-BUTANE: OSHA PEL: 1000; ACGIH TLV: 1000; STEL:
ASPHYXIAN.

Lbs of VOC per Gallon Coating (minus water): 0

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 1 Fire: 4 Reactivity: 0 Other:

HMIS: Health: 1 Fire: 4 Reactivity: 0 Special Protection:

POTENTIAL HEALTH EFFECTS

Target Organs:

Eye:

ACUTE AND CHRONIC: EYE IRRITANT.

Skin:

A PRIMARY ROUTE OF ENTRY. ACUTE AND CHRONIC: WILL CAUSE DEFATTING OF
SKIN. EFFECTS ARE REVERSIBLE. SKIN IRRITANT. SIGNS AND SYMPTOMS:
REDNESS.

Ingestion:

A PRIMARY ROUTE OF ENTRY. ACUTE AND CHRONIC: ASPIRATION HAZARD IF
SWALLOWED. SIGNS AND SYMPTOMS: VOMITING. MEDICAL CONDITIONS GENERALLY
AGGRAVATED BY EXPOSURE: HEART DISEASE.

Inhalation:

A PRIMARY ROUTE OF ENTRY. ACUTE AND CHRONIC: MAY CAUSE DIZZINESS OR
NARCOSIS IN HIGH VAPOR CONCENTRATIONS. LONG TERM EXPOSURE (YEARS) TO HIGH
CONCENTRATIONS OF VAPOR MAY CAUSE LUNG, LIVER OR KIDNEY DAMAGE. THE
SOLVENTS LISTED HAVE BEEN REPORTED TO AFFECT THE CENTRAL NERVOUS SYSTEM.
MAY IRRITATE RESPIRATORY TRACT. SIGNS AND SYMPTOMS OF EXPOSURE:
DIFFICULTY IN BREATHING. MEDICAL CONDITIONS GENERALLY AGGRAVATED BY
EXPOSURE: RESPIRATORY DISORDERS.

Miscellaneous:

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

WASH EYES WITH WATER.

Skin:

WASH SKIN WITH WATER.

Ingestion:

DO NOT INDUCE VOMITING. GASTRIC LAVAGE.

Inhalation:
GIVE OXYGEN.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:
HEATED CANS MAY BURST. NFPA 30B RATING: 3.

Special Fire Fighting Procedures:
AEROSOL CANS MAY RUPTURE WHEN HEATED.

Extinguishing Media:
USE WATER FOG, DRY CHEMICAL OR CARBON DIOXIDE.

Flash Point:
-142F TCC

Flammable Limits:
Lower Limit:
(LEL): 1.8
Upper Limit:
(UEL): 9.5

AutoIgnition Temperature:

General Information:
FLAMMABLE LIMITS: NO DATA

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:
DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE WITH EPA RCRA.

Spills/Leaks:
USE ABSORBENT SWEEPING COMPOUND TO SOAK UP MATERIAL. PUT INTO CONTAINER. DISPOSE AS HAZARDOUS WASTE.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
KEEP AWAY FROM HEAT, SPARKS, OR OPEN FLAME.

Storage:
STORE AT TEMPERATURES BELOW 120F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
LOCAL EXHAUST: YES
MECHANICAL (GENERAL): NONE
SPECIAL VENTILATION: NONE
OTHER VENTILATION: NONE

Eyes:
WEAR EYE PROTECTION.

Skin:
PROTECTIVE GLOVES: NONE REQUIRED IF SPRAYING.

Clothing:
LONG SLEEVE AND LONG PANTS.

Respirators:
SELF CONTAINED BREATHING APPARATUS IF ABOVE TLV LIMIT EXCEEDING.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:
DARK BROWN/PETROLEUM

pH: NO DATA
Vapor Pressure: (MM HG.): PSIG @ 70F: 40
Vapor Density: (AIR = 1): HEAVIER THAN AIR: 4.0
Evaporation Rate: (BUTYL ACETATE=1): LT 1
Viscosity:
Boiling Point: RANGE: -40F TO UNKNOWN
Freezing/Melting Point: MELTING POINT: NA
Decomposition Temperature:
Solubility: IN WATER: NIL
Specific Gravity: .8
Molecular Formula: N/A
Molecular Weight:
Miscellaneous:
% VOLATILE / VOLUME: NO DATA

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
STABLE: YES

Conditions to Avoid:
STABILITY (CONDITIONS TO AVOID): HIGH TEMPERATURES.

Incompatibilities with Other Materials:
INCOMPATIBLE WITH STRONG OXIDIZERS.

Hazardous Decomposition Products:
OR BYPRODUCTS: IN FIRE, WILL DECOMPOSE TO CARBON DIOXIDE, WATER, OXIDES OF SULFUR,
HYDROGEN CH
ORIDE.

Hazardous Polymerization:

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

CARCINOGENICITY: PRESENTLY NOT ON ANY LIST.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

WHEN SPRAYING MORE THAN ONE HALF CAN CONTINUOUSLY OR MORE THAN ONE CAN
CONSECUTIVELY, USE NIOSH
APPROVED RESPIRATOR.

Work/Hygienic Practices:

DO NOT SMOKE WHILE USING. WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

CATEGORY: ORM-D

DOT SHIPPING - CONSUMER COMMODITY ORM-D.

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

DOW CORNING CORPORATION
Material Safety Data Sheet

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DOW CORNING(R) 321 DRY FILM LUBRICANT**1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY**

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 02412241

Revision Date: 2004/01/14

Generic Description: inorganic compound in solvent

Physical Form: Liquid

Color: Charcoal gray

Odor: Solvent odor.

NFPA Profile: Health 2 Flammability 2 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
8052-41-3	> 60.0	Stoddard solvent
1317-33-5	15.0 - 40.0	Molybdenum disulfide
9022-96-2	10.0 - 30.0	Polybutyl titanate
7782-42-5	5.0 - 10.0	Graphite
60580-61-2	1.0 - 5.0	5-Nitro-1,3- benzenedicarboxylic acid, zinc salt

The above components are hazardous as defined in 29 CFR 1910.1200.

3. EFFECTS OF OVEREXPOSUREAcute Effects

Eye: Direct contact may cause severe irritation. Vapor may cause eye irritation.

Skin: No significant irritation expected from a single short-term exposure.

Inhalation: Vapor may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.

Oral: May cause vomiting. Aspiration of liquid while vomiting may injure lungs seriously.

Prolonged/Repeated Exposure Effects

Skin: Repeated or prolonged contact may cause defatting and drying of skin which may result in skin irritation and dermatitis. Repeated or prolonged exposure may cause irritation.

DOW CORNING(R) 321 DRY FILM LUBRICANT

Inhalation: No known applicable information.

Oral: Repeated ingestion or swallowing large amounts may injure internally.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye: Immediately flush with water for 15 minutes. Get medical attention.

Skin: Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.

Inhalation: Remove to fresh air. Get medical attention if ill effects persist.

Oral: Get immediate medical attention. Only induce vomiting at the instructions of a physician. Never give anything by mouth to an unconscious person.

Comments: Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point: 107.6 °F / 42 °C (Closed Cup)

Autoignition Temperature: Not determined.

Flammability Limits in Air: Not determined.

Extinguishing Media: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire exposed containers.

Fire Fighting Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

Unusual Fire Hazards: Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous

DOW CORNING CORPORATION

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DOW CORNING(R) 321 DRY FILM LUBRICANT

decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Metal oxides. Nitrogen oxides. Sulfur oxides. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Remove possible ignition sources. Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbant. Clean area as appropriate since some silicone materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call Dow Corning Corporation, (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves n-butyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-butyl alcohol within exposure guidelines or use respiratory protection. Avoid eye exposure. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed.

Static electricity will accumulate and may ignite vapors. Prevent a possible fire hazard by bonding and grounding or inert gas purge. Keep container closed and away from heat, sparks, and flame.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
8052-41-3	Stoddard solvent	OSHA PEL (final rule): TWA 500 ppm and ACGIH TLV: TWA 100 ppm.
9022-96-2	Polybutyl titanate	See n-butyl alcohol comments.
7782-42-5	Graphite	OSHA PEL (final rule): TWA 15 mg/m ³ total dust, 5 mg/m ³ respirable fraction. ACGIH TLV: TWA 2 mg/m ³ respirable fraction.

n-Butyl alcohol is formed on contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL (final rule): TWA 100 ppm and ACGIH TLV: 20 ppm.

Engineering Controls

Local Ventilation: Recommended.

DOW CORNING CORPORATION

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DOW CORNING(R) 321 DRY FILM LUBRICANT

General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use chemical worker's goggles.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Suitable Gloves: Teflon(R). Polyvinylalcohol. Silver Shield(R). Viton(R). 4H(R).

Inhalation: Use respiratory protection unless adequate local exhaust ventilation is provided or air sampling data show exposures are within recommended exposure guidelines. Industrial Hygiene Personnel can assist in judging the adequacy of existing engineering controls.

Suitable Respirator: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits as determined by air sampling or are unknown, appropriate respiratory protection should be worn. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes: Use full face respirator.

Skin: Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.

Inhalation/Suitable Respirator: Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Precautionary Measures: Avoid eye exposure. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed. Use reasonable care.

Comments: Product evolves n-butyl alcohol when exposed to water or humid air. Provide ventilation during use to control n-butyl alcohol within exposure guidelines or use respiratory protection.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid

DOW CORNING CORPORATION
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DOW CORNING(R) 321 DRY FILM LUBRICANT

Color: Charcoal gray
Odor: Solvent odor.
Specific Gravity @ 25°C: 0.97
Viscosity: > 50 cSt

Freezing/Melting Point: Not determined.
Boiling Point: > 35C/95F
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.

Note: The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction.

11. TOXICOLOGICAL INFORMATION**Special Hazard Information on Components**

No known applicable information.

12. ECOLOGICAL INFORMATION**Environmental Fate and Distribution**

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

DOW CORNING CORPORATION
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DOW CORNING(R) 321 DRY FILM LUBRICANT

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS**RCRA Hazard Class (40 CFR 261)**

When a decision is made to discard this material, as received, is it classified as a hazardous waste? Yes

Characteristic Waste:

Ignitable: D001

State or local laws may impose additional regulatory requirements regarding disposal.

Call Dow Corning Corporate Environmental Management, (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION**DOT Road Shipment Information (49 CFR 172.101)**

Proper Shipping Name: COMBUSTIBLE LIQUID, N.O.S.

Hazard Technical Name: PETROLEUM DISTILLATES/ORGANOTITANATE

Hazard Class: COMBUSTIBLE LIQUID

UN/NA Number: NA1993

Packing Group: III

Remarks: Above applies only to containers over 119 gallons or 450 liters.

Ocean Shipment (IMDG)

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.

Hazard Technical Name: PETROLEUM DISTILLATES/ORGANOTITANATE

Hazard Class: 3

UN Number: 1993

Packing Group: III

Hazard Label(s): FLAMMABLE LIQUID

Marine Pollutant: Not Applicable

Air Shipment (IATA)

Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.

DOW CORNING CORPORATION
Material Safety Data Sheet

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DOW CORNING(R) 321 DRY FILM LUBRICANT

Hazard Technical Name: PETROLEUM DISTILLATES/ORGANOTITANATE

Hazard Class: 3

UN Number: 1993

Packing Group: III

Hazard Label(s): FLAMMABLE LIQUID

Call Dow Corning Transportation, (989) 496-8577, if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings**Section 302 Extremely Hazardous Substances:**

None.

Section 304 CERCLA Hazardous Substances:

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
60580-61-2	1.0	5-Nitro-1,3- benzenedicarboxylic acid, zinc salt

Section 312 Hazard Class:Acute: Yes
Chronic: No
Fire: Yes
Pressure: No
Reactive: No**Section 313 Toxic Chemicals:**

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
60580-61-2	1.0	5-Nitro-1,3- benzenedicarboxylic acid, zinc salt

Supplemental State Compliance Information**California**

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

DOW CORNING(R) 321 DRY FILM LUBRICANT

None known.

Massachusetts

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
8052-41-3	> 60.0	Stoddard solvent
1317-33-5	15.0 - 40.0	Molybdenum disulfide
7782-42-5	5.0 - 10.0	Graphite
60580-61-2	1.0 - 5.0	5-Nitro-1,3- benzenedicarboxylic acid, zinc salt

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
8052-41-3	> 60.0	Stoddard solvent
1317-33-5	15.0 - 40.0	Molybdenum disulfide
9022-96-2	10.0 - 30.0	Polybutyl titanate
7782-42-5	5.0 - 10.0	Graphite
60580-61-2	1.0 - 5.0	5-Nitro-1,3- benzenedicarboxylic acid, zinc salt

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
8052-41-3	> 60.0	Stoddard solvent
1317-33-5	15.0 - 40.0	Molybdenum disulfide
9022-96-2	10.0 - 30.0	Polybutyl titanate
7782-42-5	5.0 - 10.0	Graphite
60580-61-2	1.0 - 5.0	5-Nitro-1,3- benzenedicarboxylic acid, zinc salt

16. OTHER INFORMATION

**DOW CORNING CORPORATION
Material Safety Data Sheet**

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DOW CORNING(R) 321 DRY FILM LUBRICANT

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

(R) indicates Registered Trademark



Material Safety Data Sheet

The Valvoline Company

Date Prepared: 01/14/02

Date Printed: 02/25/02

MSDS No: 505.0172170-002.010I

NAPA MP WHEEL BEARING & CHASSIS GREASE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: NAPA MP WHEEL BEARING & CHASSIS GREASE

General or Generic ID: PETROLEUM GREASE

Company

The Valvoline Company
P.O. Box 14000
Lexington, KY 40512

Telephone Numbers

Emergency: 1-800-274-5263

Information: 1-859-357-7206

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
PETROLEUM BASED LITHIUM COMPLEX GREASE		100.0

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

Can cause eye irritation.

Skin

Can cause skin irritation.

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation

It is possible to breathe this material under certain conditions of handling and use (for example, during heating, spraying, or stirring). Breathing small amounts of this material is not likely to be harmful.

Symptoms of Exposure

stomach or intestinal upset (nausea, vomiting, diarrhea).

Target Organ Effects

No data

Developmental Information
No data

Cancer Information
No data

Other Health Effects
No data

Primary Route(s) of Entry
Skin contact.

4. FIRST AID MEASURES

Eyes

If symptoms develop, move individual away from exposure and into fresh air. Flush eyes gently with water while holding eyelids apart. If symptoms persist or there is any visual difficulty, seek medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing

Do not induce vomiting. Give one glass of milk or water, and get medical attention immediately. If possible, do not leave victim unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Note to Physicians

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin.

5. FIRE FIGHTING MEASURES

Flash Point

450.0 F (232.2 C) D-92

Explosive Limit

Not applicable

Autoignition Temperature

No data

Hazardous Products of Combustion

May form: carbon dioxide and carbon monoxide, various hydrocarbons.

Fire and Explosion Hazards

Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media
regular foam, carbon dioxide, dry chemical.

Fire Fighting Instructions
Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating
Health - 1, Flammability - 1, Reactivity - 0

6. ACCIDENTAL RELEASE MEASURES

Small Spill
Sweep up material for disposal or recovery.

Large Spill
Shovel material into containers. Thoroughly sweep area of spill to clean up any residual material.

7. HANDLING AND STORAGE

Handling
Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage
Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection
Wear safety glasses in compliance with OSHA regulations. (Consult your safety representative.)

Skin Protection
Wear resistant gloves such as: neoprene, Wear normal work clothing covering arms and legs..

Respiratory Protections
If workplace exposure limit(s) of product or any component is exceeded (See Exposure Guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (consult your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines
Component

PETROLEUM BASED LITHIUM COMPLEX GREASE
No exposure limits established

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point

(for product) > 700.0 F (371.1 C) @ 760.00 mmHg

Vapor Pressure

Not applicable

Specific Vapor Density

> 1.000 @ AIR=1

Specific Gravity

.950 @ 60.00 F

Liquid Density

Not applicable

Percent Volatiles (Including Water)

No data

Evaporation Rate

Not applicable

Appearance

No data

State

SEMISOLID

Physical Form

JELLY

Color

MEDIUM AMBER

Odor

No data

pH

Not applicable

10. STABILITY AND REACTIVITY

Hazardous Polymerization

Product will not undergo hazardous polymerization.

Hazardous Decomposition

May form: carbon dioxide and carbon monoxide, various hydrocarbons.

Chemical Stability

Stable.

Incompatibility

Avoid contact with: strong oxidizing agents.

11. TOXICOLOGICAL INFORMATION

No data

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101

DOT Description:

Not Regulated

Container/Mode:

CASES/SURFACE - NO EXCEPTIONS

NOS Component:

None

RQ (Reportable Quantity) - 49 CFR 172.101

Not applicable

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4

None

SARA 302 Components - 40 CFR 355 Appendix A

None

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed() Fire() Reactive() Sudden
Release of Pressure()

SARA 313 Components - 40 CFR 372.65

None

International Regulations

Inventory Status

Not determined

State and Local Regulations

California Proposition 65

None

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Last Page



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : MSDS21948
Item No. : 21948

**** MATERIAL SAFETY DATA SHEET ****

BATTERY TERMINAL PROTECTOR

Part # MSDS21948

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BATTERY TERMINAL PROTECTOR

Product CAS: (none)

Product Code:

Synonyms: 21948; BATTERY TERMINAL PROTECTOR

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: HEALTH ISSUES AND TECHNICAL INFORMATION (8AM-5PM ET): 1-216-416-7200 X 5

60

Emergency Number: ROCKY MOUNTAIN POISON CONTROL CENTER (24 HOURS EVERYDAY): 1-303-623-5716

Emergency Agency: CHEMTREC (24 HOURS EVERYDAY)

Number: 1-800-424-9300

MSDS Creation Date: 1/1/2003

Supersedes Date: 8/24/2000

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
XYLENE	1330-20-7	0	2
ALIPHATIC HYDROCARBON	64742-89-8	17	21
TRIMETHYLBENZENE	95-63-6	3	7
PROPANE/BUTANE BLEND	68476-86-8	21	25
ETHYLBENZENE	(none)	0	0

Miscellaneous:

NOTE: SEE BELOW FOR EXPOSURE LIMIT DATA FOR THESE INGREDIENTS.

EXPOSURE CONTROLS:

INGREDIENT	OSHA	ACGIH	OTHER LIMITS
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	PEL	TLV	
XYLENE	100 PPM	100 PPM	-
ALIPHATIC HYDROCARBON	N.E.	N.E.	300 PPM
TRIMETHYLBENZENE	1000 PPM	N.E.	-
PROPANE/BUTANE BLEND	25 PPM	25 PPM	-

Lbs of VOC per Gallon Coating (minus water): 0
 Coating Density (lbs/gal): 0
 Solvent Density (lbs/gal): 0
 Percent Solvent (volume): 0
 Percent Solids (volume): 0
 Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 2 Fire: 4 Reactivity: 0 Other:
 HMIS: Health: 2 Fire: 4 Reactivity: 0 Special Protection:

Miscellaneous:
 EMERGENCY OVERVIEW:

CONDITIONS TO AVOID: EXCESSIVE INHALATION OF VAPORS.

APPEARANCE AND ODOR: TYPICAL SOLVENT PAINT.

HMIS AND NFPA HAZARD RATINGS:

CATEGORY	HMIS	NFPA
PERSONAL PROT./SPECIFIC HAZ.	E	-

POTENTIAL HEALTH EFFECTS

Target Organs:
 PRIMARY ROUTES OF EXPOSURE: INHALATION, SKIN CONTACT, EYE CONTACT.

Eye:
 SYMPTOMS OF OVEREXPOSURE: ACUTE: CONTACT - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.

Skin:
 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: CAN CAUSE ALLERGIC SKIN REACTION.

SYMPTOMS OF OVEREXPOSURE: ACUTE: CONTACT - CAN CAUSE IRRITATION, PROLONGED CAN CAUSE DRYNESS AND CRACKING OF SKIN.

Ingestion:
 SYMPTOMS OF OVEREXPOSURE: ACUTE: SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

Inhalation:

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: CAN CAUSE ALLERGIC RESPIRATORY

SYMPTOMS OF OVEREXPOSURE: ACUTE: BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, POSSIBLE UNCONSCIOUSNESS, AND ASPHYXIATION.

Miscellaneous:

SYMPTOMS OF OVEREXPOSURE: CHRONIC: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT AND NERVOUS SYSTEM DAMAGE. SEVERE

OVEREXPOSURE IN LABORATORY ANIMALS HAS ALSO CAUSED LIVER ABNORMALITIES AND DAMAGE KIDNEYS,

LUNGS, SPLEEN, HEART, AND ADRENALS. INTENTIONAL MISUSE BY DELIBERATELY AND

INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

CONTACT: IF IN EYES: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET PROMPT MEDICAL ATTENTION.

Skin:

CONTACT: IF ON SKIN: WASH WITH SOAP AND WATER OR VARIOUS HAND CLEANERS AND WASH CLOTHING.

Ingestion:

IF SWALLOWED: DO NOT INDUCE VOMITING (ASPIRATION OF MATERIAL INTO LUNGS CAN CAUSE PNEUMONIC, WHICH CAN BE FATAL). KEEP PERSON WARM AND QUIET AND GET MEDICAL ATTENTION/POISON CONTROL CENTER.

Inhalation:

IF BREATHED: MOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION AND SEEK MEDICAL HELP.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

CLOSED CONTAINERS MAY EXPLODE AND/OR AUTOIGNITE WHEN EXPOSED TO EXTREME HEAT. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM THE MATERIAL HANDLING POINT.

Special Fire Fighting Procedures:

WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT

PRESSURE BUILD-UP AND POSSIBLE AUTO IGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. IF

WATER IS USED, FOG NOZZLES ARE PREFERABLE. USE A SELF-CONTAINED BREATHING WITH A FULL FACE PIECE.

Extinguishing Media:
CARBON DIOXIDE, DRY CHEMICAL, OR ALCOHOL FOAM.

Flash Point:
0 OF; -18 OC; PROPELLANT = - 100 OF.

Flammable Limits:

Lower Limit:
(%): LEL 1.0
Upper Limit:
(%): UEL N.D.

AutoIgnition Temperature:

General Information:
UNIFORM FIRE CODE: LEVEL 3 AEROSOL.

FLAMMABILITY CLASSIFICATION: EXTREMELY FLAMMABLE.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:
WASTE DISPOSAL METHOD MATERIAL COLLECTED MAY BE DEPOSITED IN A POSTED TOXIC SUBSTANCE LANDFILL
IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

Spills/Leaks:
ELIMINATE ALL IGNITION SOURCES. VENTILATE AREA. ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR
ABSORBENT MATERIAL, AND TRANSFER TO A CLOSED CONTAINER.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
SEE "STORAGE".

Storage:
DO NOT STORE IN AREAS ABOVE 120 DEG F (49 DEG C) OR IN DIRECT SUNLIGHT OR NEAR HEAT OR OPEN
FLAMES. DO NOT PUNCTURE OR INCINERATE.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
VENTILATION - FOR REGULAR/CONTINUOUS USE, PROVIDE SUFFICIENT MECHANICAL

(GENERAL) AND/OR LOCAL EXHAUST TO MAINTAIN EXPOSURES BELOW TLV'S IN SECTION II.

Eyes:

CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS, ARE ADVISED.

Skin:

PROTECTIVE GLOVES: WEAR CHEMICAL-RESISTANT GLOVES SUCH AS NEOPRENE, IF SKIN CONTACT IS TO BE AVOIDED.

Clothing:

OTHER PROTECTIVE EQUIPMENT: WHERE SPECIAL OR UNUSUAL CONDITIONS EXIST, SEEK THE EXPERT ASSISTANCE OF AN INDUSTRIAL HYGIENIST.

Respirators:

FOR CASUAL, OCCASIONAL USE - TO AVOID BREATHING VAPORS OR SPRAY MIST, OPEN WINDOWS AND DOORS OR EMPLOY SUFFICIENT VENTILATION TO ENSURE FRESH-AIR ENTRY DURING APPLICATION AND DRYING. IF YOU EXPERIENCE EYE WATERING, HEADACHE OR DIZZINESS, WEAR RESPIRATORY PROTECTION OR THE AREA.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

TYPICAL SOLVENT PAINT.

pH: N.A.

Vapor Pressure: UNKNOWN FOR PRODUCTS.

Vapor Density: (AIR = 1): GT 1.

Evaporation Rate: (BUAC=1): GT 1.

Viscosity:

Boiling Point: 104 DEG F; 40 DEG C.

Freezing/Melting Point: MELTING POINT: ESTIMATED 1500 OF.

Decomposition Temperature:

Solubility: IN WATER: SLIGHT.

Specific Gravity: 1

Molecular Formula:

Molecular Weight:

Miscellaneous:

MATERIAL IS: LIQUID.

% VOLATILE BY VOLUME: 80 - 90

SPECIFIC GRAVITY (WATER = 1): LT 1.

WEIGHT PER GALLON: 6.0 - 6.3.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE.

Conditions to Avoid:

STABILITY: HEAT, SPARKS, AND OPEN FLAMES.

HAZARDOUS POLYMERIZATION: N.A.

Incompatibilities with Other Materials:

CONDITIONS TO AVOID: AVOID CONTACT WITH STRONG OXIDIZING AGENTS AND HEAT.

Hazardous Decomposition Products:

MAY FORM CARBON DIOXIDE, CARBON MONOXIDE, NITROGEN COMPOUNDS, ETC. WHEN BURNED.

Hazardous Polymerization:

WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

CARCINOGENICITY: IARC. CONTAINS ETHYLBENZENE AS A COMPONENT OF XYLENE AND/OR MINERAL SPIRITS.

ETHYLBENZENE IS CLASSIFIED AS POSSIBLY CARCINOGENIC TO HUMANS BASED ON ANIMAL DATA; HOWEVER,

THERE IS INADEQUATE EVIDENCE FOR CANCER IN EXPOSED HUMANS.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

NO DATA AVAILABLE.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

STORE LARGE QUANTITIES IN BUILDINGS PROTECTED FOR STORAGE OF NFPA CLASS FLAMMABLE LIQUIDS.

Work/Hygienic Practices:

WASH HANDS BEFORE EATING OR USING WASHROOM. AS WITH ALL CHEMICALS, MINIMIZE PERSONAL CONTACT.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

DOT SHIPPING NAME: CONSUMER COMMODITY.

HAZARD CLASS OR DIVISION: ORM-D.

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

TSCA STATUS: ALL COMPONENTS ARE EITHER LISTED ON, OR ARE EXEMPT FROM THE TSCA

NSR STATUS (CANADA): N.D.

SARA TITLE III:

HAZARD CATEGORIES:

ACUTE HEALTH: YES

CHRONIC HEALTH: YES

FIRE HAZARD: YES

PRESSURE HAZARD: YES

REPORTABLE INGREDIENTS:

SECTION 302/303: NONE.

SECTION 313: TRIMETHYLBENZENE, XYLENE.

EXTREMELY HAZARDOUS SUBSTANCES: NONE.

CERCLA RQ: N.A.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

N.A. - NOT APPLICABLE N.D. - NOT DETERMINED N.E. - NOT ESTABLISHED

REVISION SUMMARY: PREPARED AUGUST 24, 2000.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Vacuum Pump Oil
PRODUCT LABEL: H-D Plus
STOCK NUMBER: BO1047, BD1047, BP1047, PP310, PP370, PP82, PP3276

Supplier Information:
Moraine Liquid Technologies, Ltd
1212 W. Second Street
Oconomowoc, WI 53066

Manufacturers Information:
Moraine Liquid Technologies, Ltd
1212 W. Second Street
Oconomowoc, WI 53066

Emergency Telephone: 262-567-7523

Prepared by: Steve Zimmerman Phone: 262 567 7523 Prepare Date: 6/2004

<u>MATERIAL</u>	<u>CAS#</u>	<u>% BY WEIGHT</u>
Petroleum Lubricating Mineral Oil	64742-65-0	95.0 - 99.00
Additive(s)	Proprietary	1.00 - 5.00

SECTION 1 -- HAZARDOUS INGREDIENTS

This material does not contain any chemical listed as a carcinogen or potential carcinogen by OSHA, IARC Monographs or National Toxicology Program.

SECTION 2 -- FIRE AND EXPLOSION HAZARDS

FLASH POINT: 415°-435° F LOWER FLAMMABLE LIMIT: Not Determined
UPPER FLAMMABLE LIMIT: Not Determined
EXTINGUISHING MEDIA: CO2, Dry Chemical, Foam, Water spray; Water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus with a full face piece.
UNUSUAL FIRE & EXPLOSION HAZARDS: None.

SECTION 3 -- HEALTH HAZARDS DATA

ORAL TOXICITY: Greater than 5000 mg/kg in rats. Based on data from components.
EYE IRRITATION: Not expected to cause eye irritation. Based on data from components.
SKIN IRRITATION: Not expected to cause skin irritation. Based on data from components.
OTHER: Unknown.
TLV: None established. Oil mist = 5 mg/cu meter
PRIMARY ROUTES OF ENTRY: Skin Contact, Skin absorption, Inhalation, Ingestion, Eye Contact.

****EMERGENCY FIRST AID PROCEDURES****

SKIN: Wash with soap and water.

EYES: Flush eyes with water for 15 minutes.

INHALATION: Remove to fresh air. See physician if irritation persists.

ORAL: Call a physician. Do NOT induce vomiting.

SECTION 4 -- SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE: Mechanical ventilation recommended.

EYE PROTECTION: Safety glasses.

GLOVES PROTECTION: Neoprene or nitrile rubber gloves recommended.

SECTION 5 -- PHYSICAL DATA

VAPOR PRESSURE: < 0.1mm Hg @ 20 degrees C

SPECIFIC GRAVITY: .875 approx.

PERCENT VOLATILE: Not Determined

EVAPORATION RATE: Not Determined

APPEARANCE: Amber liquid

pH: Not Determined

WATER SOLUBILITY: Insoluble

VAPOR DENSITY: Not Determined

ODOR: Mild

SECTION 6 -- STABILITY

STABILITY: Stable

INCOMPATIBILITY: Oxidizing agents.

POLYMERIZATION: Will not occur.

THERMAL DECOMPOSITION: Oxides of carbon.

SECTION 7 -- SPILL OR LEAK PROCEDURES

SPILL PROCEDURES: Prevent entry into sewers and waterways. Pick up free liquid for recycle/disposal. Absorb small amounts of inert material for disposal.

WASTE DISPOSAL: If disposed of, this material is believed to be non-hazardous.

Disposal should be in compliance with federal, state, and local laws.

SECTION 8 -- TRANSPORTATION AND LABELING

DOT PROPER SHIPPING NAME: N.A.

DOT ID NUMBER: None

EPA HAZARDOUS SUBSTANCES: None

PRECAUTIONARY LABELS: None

DOT HAZARD CLASS: N.A.

IMO CLASS: None

ICAO CLASS: None

SECTION 9-- SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS: Remove contaminated clothing and launder before use.

NFPA CODE: **HEALTH: 1** **FIRE: 1** **REACTIVITY: 0**

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of Moraine Liquid Technologies, Ltd.'s knowledge; however, Moraine Liquid Technologies, Ltd. makes no warranty whatsoever, expressed or implied, of **MERCHANTIBILITY** or **FITNESS FOR THE PARTICULAR PURPOSE**, regarding the accuracy of such data or the results to be obtained from the use thereof. Moraine Liquid Technologies, Ltd. assumes no responsibility for the injury to recipient or to third persons or for any damage to any property & recipient assumes all such risks.

Click [here](#) to go back to MSDS



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : MSDS21929
Item No. : 21929

**** MATERIAL SAFETY DATA SHEET ****

GLASS CLEANER

Part # MSDS21929

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: GLASS CLEANER

Product CAS: (none)

Product Code:

Synonyms: 21929; GLASS CLEANER

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: HEALTH ISSUES AND TECHNICAL INFORMATION (8AM-5PM ET): 1-216-416-7200 X 5

60

Emergency Number:

Emergency Agency: CHEMTREC (24 HOURS EVERYDAY) / ROCKY MOUNTAIN POISON CONTROL CENTER (24 HOURS EVERYDAY)

Number: 1-800-424-9300 / 1-303-623-5716

MSDS Creation Date: 1/1/2003

Supersedes Date: 12/10/1999

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
ISOPROPYL ALCOHOL	67-63-0	6	6
ETHYLENE GLYCOL MONOBUTYL ETHER	111-76-2	1	1
SODIUM TRIPOLYPHOSPHATE	7758-29-4	0	0
NONYLPHENOL POLYETHYLENE GLYCOL ETHER	26027-38-3	0	0
WATER	7732-18-5	0	0
ACETONE	67-64-1	0	0
METHYL ETHYL KETONE	78-93-3	0	0
TOLUENE	108-88-3	0	0

Miscellaneous:

INGREDIENTS % BY WEIGHT CAS NUMBER

ISOPROPYL ALCOHOL	6.0	67-63-0
ETHYLENE GLYCOL MONOBUTYL ETHER	1.0	111-76-2
2-BUTOXY ETHANOL	N.D.	111-76-2
SODIUM TRIPOLYPHOSPHATE	N.D.	7758-29-4
NONYLPHENOL POLYETHYLENE GLYCOL ETHER	N.D.	26027-38-3
WATER	N.D.	NONE

NOTE: SEE BELOW FOR EXPOSURE LIMIT DATA FOR THESE INGREDIENTS

INGREDIENT	OSHA PEL	ACGIH TLV	TLV STEL
ISOPROPYL ALCOHOL	400 PPM	400 PPM	500 PPM
ETHYLENE GLYCOL MONOBUTYL ETHER	25 PPM	25 PPM	25 PPM
2-BUTOXY ETHANOL	N.A.	N.A.	N.A.
SODIUM TRIPOLYPHOSPHATE	N.A.	N.A.	N.A.
NONYLPHENOL POLYETHYLENE GLYCOL ETHER			

Lbs of VOC per Gallon Coating (minus water): 0
 Coating Density (lbs/gal): 0
 Solvent Density (lbs/gal): 0
 Percent Solvent (volume): 0
 Percent Solids (volume): 0
 Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: Fire: Reactivity: Other:
 HMIS: Health: 2 Fire: 4 Reactivity: 0 Special Protection:

Miscellaneous:
 EMERGENCY OVERVIEW
 APPEARANCE AND ODOR: BLUE LIQUID/CHARACTERISTIC.

HMIS AND NFPA HAZARD RATINGS:

CATEGORY	NFPA
ACUTE HEALTH	N.D.
FLAMMABILITY	N.D.
REACTIVITY	N.D.
PERSONAL PROT./SPECIFIC HAZ.:	* / N.D.

POTENTIAL HEALTH EFFECTS

Target Organs:
 PRIMARY ROUTES OF EXPOSURE: EYE CONTACT, INGESTION.

Eye:
 SIGNS AND SYMPTOMS OF OVEREXPOSURE: IRRITATING TO EYES.

Skin:

SIGNS AND SYMPTOMS OF OVEREXPOSURE: CONSTANT EXPOSURE TO SKIN, BY MEANS OF TOTAL IMMERSION,
MAY CAUSE SOME DRYING OR DEFATTING OF SKIN.

Ingestion:

Inhalation:

Miscellaneous:

CONDITIONS TO AVOID: EYE, SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N.D.

HEALTH HAZARDS (ACUTE AND CHRONIC-INCLUDE ORGAN EFFECTS): NONE.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

FLUSH EYES WITH WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.

Skin:

WASH SKIN THOROUGHLY WITH SOAP AND WATER.

Ingestion:

IF SWALLOWED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN.

Inhalation:

N.E.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

NONE.

Special Fire Fighting Procedures:

NONE.

Extinguishing Media:

CARBON DIOXIDE, DRY CHEMICAL, FOAM.

Flash Point:

135 F; METHOD USED: N.A.

Flammable Limits:

Lower Limit:

LEL N.A.

Upper Limit:

UEL N.A.

AutoIgnition Temperature:

General Information:

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE OF DAMAGED AEROSOL CONTAINER IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS REGARDING "EMPTY" CHEMICAL CONTAINERS.

Spills/Leaks:

DILUTE WITH WATER AND FLUSH DOWN THE DRAIN.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Storage:

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST AS NEEDED TO CONTROL VAPORS OR DUST LEVEL BELOW LOWEST COMPONENT RECOMMENDED SAFE EXPOSURE LIMIT.

Eyes:

CHEMICAL SPLASH GOGGLES.

Skin:

CLEAN CLOTHING TO COVER SKIN. BUTYL RUBBER GLOVES. NITRILE GLOVES. SUPPORTED PVA GLOVES.

Clothing:

OTHER PROTECTIVE EQUIPMENT: ACCESSIBLE EYE WASH AND SAFETY SHOWER.

Respirators:

IF THE TLV IS EXCEEDED, IF USE IS PERFORMED IN A POORLY VENTILATED SPACE OR AREA WITH LIMITED VENTILATION, USE AN APPROPRIATE NIOSH-APPROVED VAPOR CARTRIDGE RESPIRATOR IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY REGULATIONS AND MANUFACTURER'S RECOMMENDATIONS. IF THE TLV IS EXCEEDED, IF USE IS PERFORMED IN A POORLY VENTILATED SPACE OR AREA WITH LIMITED VENTILATION, USE AN APPROPRIATE NIOSH-APPROVED VAPOR CARTRIDGE RESPIRATOR WITH DUST FILTER IN ACCORDANCE WITH APPLICABLE REGULATIONS AND MANUFACTURER'S RECOMMENDATIONS.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:
BLUE LIQUID/CHARACTERISTIC.

pH: N.A.
Vapor Pressure: GT 2 ATM
Vapor Density: (AIR = 1): GT 1 HEAVIER THAN AIR
Evaporation Rate: (N-BUTYL ACETATE=1): GT 1
Viscosity: LOW
Boiling Point: -44-378 F
Freezing/Melting Point: FREEZING POINT: 100
Decomposition Temperature:
Solubility: IN WATER: NEGLIGIBLE
Specific Gravity: .8193
Molecular Formula:
Molecular Weight:
Miscellaneous:
VOC (G/LITER): N.D.

COEFFICIENT OF WATER/OIL DISTRIBUTION: NO DATA.

MAX. % VOC. BY WT.: N.D.; METHOD USED: CALCULATED.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
THIS PRODUCT IS STABLE UNDER NORMAL STORAGE CONDITIONS. STORE AWAY FROM HEAT.

Conditions to Avoid:
PROLONGED EXPOSURE TO ELEVATED TEMPERATURES.

Incompatibilities with Other Materials:
STRONG LEWIS OR MINERAL ACIDS. STRONG BASES OR OXIDANTS.

Hazardous Decomposition Products:
OXIDES OF CARBON. ACRID FUMES.

Hazardous Polymerization:
WILL NOT OCCUR UNDER NORMAL CONDITIONS.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:
CARCINOGENICITY: NONE

INGREDIENT	ACGIH	IARC	NTP	OSHA
ACETONE	NO	NO	NO	NO
ISOPROPANOL	NO	NO	NO	NO
DIPROPYLENE GLYCOL				
MONOMETHYL ETHER	NO	NO	NO	NO
NATURAL GRAPHITE	NO	NO	NO	NO
METHYL ETHYL KETONE	NO	NO	NO	NO

BUTANE	NO	NO	NO	NO
PROPANE	NO	NO	NO	NO
TOLUENE	NO	NO	NO	NO

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:
NO DATA AVAILABLE.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:
CAUTION! CONTAINS SURFACTANTS, AVOID EYE CONTACT, KEEP OUT OF REACH OF CHILDREN.

Work/Hygienic Practices:
WASH HANDS BEFORE EATING. DO NOT SMOKE OR EAT WHILE USING MATERIAL. DO NOT REUSE CONTAINER.
FOLLOW ALL MSDS/LABEL PRECAUTIONS EVEN AFTER CONTAINER IS EMPTIED. OPEN ALL DOORS AND WINDOWS
DURING USE AND UNTIL VAPORS HAVE DISAPPEARED.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
DOT SHIPPING NAME: CONSUMER COMMODITY.

UN PROPER SHIPPING NAME: UN/IMO: AEROSOLS, 9, UN1950; UN/AIR: AEROSOLS, FLAMMABLE, N.O.S., 2.1, UN1950.

SUPPLEMENTAL IMO/IMDG/AIR INFORMATION: UN1950: PAGE 2102, 9022; EMS 2-13; MFAG 620; AIR PKG 0INSTR Y203.

HAZARD CLASS OR DIVISION: ORM-D.

CARTON MARKINGS: NONE.

IDENTIFICATION NUMBER: NONE.

PACKING GROUP: NONE.

LABELS: NONE.

Label Information:
LABEL HAZARDS: CAUTION! IRRITATING TO EYES.

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

TSCA STATUS: THE CHEMICAL SUBSTANCES IN THIS PRODUCT ARE ON THE TSCA SECTION 8 INVENTORY.

NSR STATUS (CANADA): WHIMS CLASS: A, B1, D1B.

SARA TITLE III: N.A.

HAZARD CATEGORIES:

ACUTE HEALTH: YES

CHRONIC HEALTH: YES

FIRE HAZARD: YES

PRESSURIZED GAS HAZARD: YES

REPORTABLE INGREDIENTS:

SECTION 302/303: NONE

SECTION 313: ACETONE, METHYL ETHYL KETONE, TOLUENE.

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33): D001, U154, U002, D034.

CERCLA RQ: MINIMUM, AS PRODUCT, LBS.: 5000; MINIMUM, AS WASTE, LBS.: 100.

CALIFORNIA PROPOSITION 65: WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF

CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: TOLUENE (CAS # 108-88-3).

OSHA: HAZARDOUS BY DEFINITION OF HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

N.A. - NOT APPLICABLE N.D. - NOT DETERMINED N.E. - NOT ESTABLISHED

REVISION SUMMARY: THIS MSDS REPLACES THE APRIL 3, 1997 MSDS. PREPARED DECEMBER 10, 1999.



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : BD1018

Item No. : BD1018, BD1018, BD1018-1

**** MATERIAL SAFETY DATA SHEET ****

BRAKE WASH

Part # BD1018

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BRAKE WASH

Product CAS: (none)

Product Code:

Synonyms: BD1018; BRAKE WASH

Company Identification:

Name: Sherwin Williams Company

Address:

Address:

City: Cleveland State: OH Zip: 44115

For information, call: 800-832-2541

Emergency Number: 216-566-2917

Emergency Agency:

Number:

MSDS Creation Date: 2/7/2005

Supersedes Date:

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
ETHYLBENZENE	100-41-4	0	7
XYLENE	1330-20-7	0	38
ACETONE	67-64-1	0	49
CRABON DIOXIDE	124-38-9	0	6

Miscellaneous:

CHEMICAL	ACGIH TLV	OSHA PEL	%BY WT.
VAPOR PRESSURE			
ETHYLBENZENE	100 PPM	100 PPM	7
7.1 MM			
	125 PPM STEL	125 PPM STEL	
XYLENE	100 PPM	100 PPM	38
5.9 MM			
	150 PPM STEL	150 PPM STEL	

ACETONE	500 PPM	750 PPM	49
180 MM			
	750 PPM STEL	1000 PPM	
CARBON DIOXIDE	5000 PPM	5000 PPM	6
760 MM			

Lbs of VOC per Gallon Coating (minus water): 0
 Coating Density (lbs/gal): 0
 Solvent Density (lbs/gal): 0
 Percent Solvent (volume): 0
 Percent Solids (volume): 0
 Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: Fire: Reactivity: Other:
 HMIS: Health: 2 Fire: 3 Reactivity: 0 Special Protection:

POTENTIAL HEALTH EFFECTS

Target Organs:
 SIGNS AND SYMPTOMS OF OVEREXPOSURE: HEADACHE, DIZZINESS, NAUSEA, AND LOSS OF
 COORDINATION ARE
 INDICATIONS OF EXCESSIVE EXPOSURE TO VAPORS OR SPRAY MISTS., REDNESS AND ITCHING
 OR BURNING
 SENSATION MAY INDICATE EYE OR EXCESSIVE SKIN EXPOSURE.

Eye:
 IRRITATION

Skin:
 PROLONGED OR REPEATED EXPOSURE MAY CAUSE IRRITATION.

Ingestion:

Inhalation:
 IRRITATION OF THE UPPER RESPIRATORY SYSTEM. MAY CAUSE NERVOUS SYSTEM DEPRESSION.
 EXTREME
 OVEREXPOSURE MAY RESULT IN UNCONSCIOUSNESS AND POSSIBLE DEATH.

Miscellaneous:

**** SECTION 4 - FIRST AID MEASURES ****

Eye:
 FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.

Skin:
 WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING
 AND LAUNDER
 BEFORE RE-USE.

Ingestion:

DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY.

Inhalation:

IF AFFECTED, REMOVE FROM EXPOSURE. RESTORE BREATHING. KEEP WARM AND QUIET.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. APPLICATION TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS. DURING EMERGENCY CONDITIONS OVEREXPOSURE TO DECOMPOSITION PRODUCTS MAY CAUSE A HEALTH HAZARD. SYMPTOMS MAY NOT BE IMMEDIATELY APPARENT. OBTAIN MEDICAL ATTENTION.

Special Fire Fighting Procedures:

FULL PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED. WATER SPRAY MAY BE INEFFECTIVE. IF WATER IS USED, FOG NOZZLES ARE PREFERABLE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT.

Extinguishing Media:

CARBON DIOXIDE, DRY CHEMICAL, FOAM

Flash Point:

36 F PMCC

Flammable Limits:

Lower Limit:

1.0

Upper Limit:

12.8

AutoIgnition Temperature:

General Information:

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

WASTE FROM THIS PRODUCT MAY BE HAZARDOUS AS DEFINED UNDER THE RESOURCES CONSERVATION AND RECOVERY ACT (RCRA) 40 CFR 261.

WASTE MUST BE TESTED FOR IGNITABILITY TO DETERMINE THE APPLICABLE EPA HAZARDOUS WASTE NUMBERS.

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE/PROVINCIAL, LOCAL REGULATIONS REGARDING POLLUTION.

Spills/Leaks:

REMOVE ALL SOURCES OF IGNITION. VENTILATE THE AREA. REMOVE WITH INERT ABSORBENT.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. DURING USE AND UNTIL ALL VAPORS ARE GONE. KEEP AREA VENTILATED, DO NOT SMOKE, EXTINGUISH ALL FLAMES, PILOT LIGHTS, AND HEATERS, TURN OFF STOVES, ELECTRIC TOOLS AND APPLIANCES, AND ANY OTHER SOURCES OF IGNITION. CONSULT NFPA CODE. USED APPROVED BONDING AND ROUNDING PROCEDURES. CONTENTS UNDER PRESSURE. DO NOT PUNCTURE, INCINERATE OR EXPOSE TO TEMPERATURES ABOVE 120 DEG F. HEAT FROM SUNLIGHT, RADIATORS, STOVES, HOT WATER, AND OTHER HEAT SOURCES COULD CAUSE CONTAINERS TO BURST. DO NOT TAKE INTERNALLY. KEEP OUT THE REACH OF CHILDREN.

Storage:

SEE HANDLING

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST PREFERABLE. GENERAL EXHAUST ACCEPTABLE IF THE EXPOSURE TO MATERIALS IN SECT 2 IS MAINTAINED BELOW APPLICABLE EXPOSURE LIMITS. REFER TO OSHA STANDARDS 1910.94, 1910.107, 1910.10

Eyes:

WEAR SAFETY SPECTACLES WITH UNPERFORATED SIDESHIELDS.

Skin:

GLOVES, NONE FOR NORMAL APPLICATION OR AEROSOL PRODUCTS WHERE MINIMAL SKIN CONTACT IS EXPECTED. FOR LONG OR REPEATED CONTACT, WEAR CHEMICAL RESISTANT GLOVES.

Clothing:

Respirators:

IF PERSONAL EXPOSURE CANNOT BE CONTROLLED BELOW APPLICATION LIMITS BY VENTILATION, WEAR A PROPERLY FITTED ORGANIC VAPOR/PARTICULATE RESPIRATOR APPROVED BY NIOSH/MSHA FOR PROTECTION AGAINST MATERIALS IN SECT 2.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

pH: N/A

Vapor Pressure: N/A

Vapor Density: HEAVIER THAN AIR

Evaporation Rate: FASTER THAN ETHER

Viscosity: N/A
Boiling Point: <- 292 F <8 -144 C
Freezing/Melting Point: N/A
Decomposition Temperature: N/A
Solubility: N/A
Specific Gravity: 0.83
Molecular Formula: N/A
Molecular Weight: N/A
Miscellaneous:
PRODUCT WEIGHT: 6.94 LB/GAL 831 G/L
VOLATILE VOLUME: 100%
VOLATILE WEIGHT 45.00%

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
STABLE.

Conditions to Avoid:
NONE KNOWN.

Incompatibilities with Other Materials:
NONE KNOWN.

Hazardous Decomposition Products:
BY FIRE: CARBON DIOXIDE, CARBN MONOOXIDE

Hazardous Polymerization:
WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:
ETHYLBENZENE IS CLASSIFIED BY IARC AS POSSIBLE CARCINOGENIC TO HUMANS (2B) BASED ON INADEQUATE EVIDENCE IN HUMANS AND SUFFICIENT EVIDENCE IN LABORATORY ANIMALS. LIFETIME INHALATION EXPOSURE OF RATS AND MICE TO HIGH ETHYLBENZENE CONCENTRATIONS RESULTED IN INCREASES IN CERTAIN TYPES OF CANCER, INCLUDING KIDNEY TUMORS IN RATS AND LUNG AND LIVER TUMORS IN MICE. THESE EFFECTS WERE NOT OBSERVED IN ANIMALS EXPOSED TO LOWER CONCENTRATIONS. THERE IS NO EVIDENCE THAT ETHYLBENZENE CAUSES CANCER IN HUMANS. PROLONGED OVEREXPOSURE TO SOLVENT INGREDIENTS IN SECT 2 MAY CAUSE ADVERSE EFFECTS TO THE LIVER, URINARY AND REPRODUCTIVE SYSTEMS. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. CHEMICAL ETHYLBENZENE LC50 RAT 4 HR NOT AVAILABLE
LD50 RAT 3500 MG/KG XYLENE LC50 RAT 4 HR 5000 PPM LD50 RAT 4300 MG/KG ACETONE LC50 RAT 4 HR NOT AVAILABLE
LD50 RAT 5800 MG/KG CARBON DIOXIDE LC50 RAT 4 HR NOT AVAILABLE LD50 RAT NOT AVAILABLE

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:
NO DATA AVAILABLE.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

Work/Hygienic Practices:
WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
NO DATA AVAILABLE

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:
SARA 313 (40 CFR 372.65C)
CALIFORNIA PROPOSITION 65
WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE
CANCER AND
BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.
TSCA CERTIFICATION: ALL CHEMICALS IN THIS PRODUCT ARE LISTED OR ARE EXEMPT FROM
LISTING, ON
THE TSCA INVENTORY.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:
THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE
CANADIAN
CONTROLLED PRODUCTS REGULATIONS (CPR) AND THE MSDS CONTAINS ALL OF THE INFORMATION
REQUIRED BY
THE CPR.

Barnes Distribution	1301 E. 9th Street, #700 Cleveland OH 44114 (800) 726-9626	Material Safety Data Sheet Fax Reply System
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MSDS Number: **65382**

Sales Division: **CURTIS**

Product Description: **BATTERY CLEANER**

Product Number:

**** MATERIAL SAFETY DATA SHEET ****

BATTERY CLEANER

Part # 65382

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BATTERY CLEANER

Product CAS: (none)

Product Code:

Synonyms: 65382; BATTERY CLEANER

Company Identification:

Name: KAR PRODUCTS

Address: 461 N. THIRD AVE.

Address:

City: DES PLAINES State: IL Zip: 60016

For information, call: 847-296-6111

Emergency Number: 800-752-7869

Emergency Agency:

Number:

MSDS Creation Date: 1/26/2004

Supersedes Date:

Miscellaneous:

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
PROPANE	74-98-6	0	99

Miscellaneous:

CHEMICAL	OSHA PEL	ACGIH TLV	OTHER LIMITS	PERCENTAGE
PROPANE	1000PPM	E/ASPHYXIAN		0.0 - 99.0

Lbs of VOC per Gallon Coating (minus water): 0

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 1 Fire: 4 Reactivity: 0 Other:

HMIS: Health: Fire: Reactivity: Special Protection:

POTENTIAL HEALTH EFFECTS

Target Organs:

Eye:

MAY CAUSE REDNESS AND BURNING.

Skin:

WILL CAUSE DEFATTING OF THE SKIN.

Ingestion:

GENERATED MISTS MAY BE SEVERELY IRRITATING AND CAUSE DAMAGE TO RESPIRATORY TRACT IF SWALLOWED. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD IF SWALLOWED.

Inhalation:

MAY CAUSE DIZZINESS OR NARCOSIS IN HIGH VAPOR CONCENTRATIONS.

Miscellaneous:

THE PROPELLANT CAN ATTACK THE CENTRAL NERVOUS SYSTEM.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: HEART DISEASE.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

WASH EYES WITH WATER FOR LEAST 15 MIN AND CALL A PHYSICIAN IMMEDIATELY.

Skin:

WASH SKIN WITH LARGE AMOUNTS OF SOAP AND WATER. IF IRRITATION PERSISTS CALL PHYSICIAN.

Ingestion:

CALL PHYSICIAN IMMEDIATELY.

Inhalation:

REMOVE TO FRESH AIR. START ARTIFICIAL RESPIRATION IF NECESSARY. OXYGEN MAY BE ADMINISTERED. CALL A PHYSICIAN.

Notes to Physician:

Miscellaneous:

IF YOU HAVE A MEDICAL CONDITION CONSULT WITH A PHYSICIAN PRIOR TO USING THIS PRODUCT.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

HEATED CANS MAY BURST.

Special Fire Fighting Procedures:

CANS MAY RUPTURE WHEN HEATED.

Extinguishing Media:

USE WATER FOG, DRY CHEMICAL OR CARBON DIOXIDE.

Flash Point:

-40.0 DEG F

Flammable Limits:

Lower Limit:

1.8%

Upper Limit:

12.0%

Autolgnition Temperature:

NA

General Information:

METHOD USED: T.O.C.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL

REQUIREMENTS.

Spills/Leaks:

USE ABSORBENT SWEEPING COMPOUND TO SOAK UP MATERIAL. PUT INTO CONTAINER. DISPOSE OF AS HAZARDOUS WASTE.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

KEEP AWAY FROM HEAT, SPARKS, OR OPEN FLAME. CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS.

Storage:

STORE AT TEMPERATURES BELOW 120 F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST: YES

MECHANICAL (GENERAL): NONE

SPECIAL VENTILATION: NONE

OTHER VENTILATION: NONE

Eyes:

WEAR EYE PROTECTION. WEAR GLASSES OR GOGGLES.

Skin:

PROTECTIVE GLOVES: NONE REQUIRED IF SPRAYING.

Clothing:

LONG SLEEVE AND LONG PANTS. WEAR APPROPRIATE EQUIPMENT TO PREVENT SKIN FREEZING. IMMEDIATELY REMOVE ANY CLOTHING THAT BECOME WET TO AVOID A FLAMMABILITY HAZARD.

Respirators:

SELF CONTAINED BREATHING APPARATUS IF ABOVE TLV LIMIT EXCEEDING.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

WHITE FOAM- NO ODOR.

pH: NA

Vapor Pressure: 31 PSIG AT 70.0 DEG F

Vapor Density: 4.0

Evaporation Rate: 0.1

Viscosity: NA

Boiling Point: 212.0 DEG F

Freezing/Melting Point: NA

Decomposition Temperature: NA

Solubility: IN WATER: VERY SOLUBLE

Specific Gravity: .7

Molecular Formula: N/A

Molecular Weight: NA

Miscellaneous:

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE: YES

Conditions to Avoid:

HIGH TEMPERATURES.

Incompatibilities with Other Materials:

STRONG OXIDIZERS.

Hazardous Decomposition Products:

IN FIRE WILL DECOMPOSE TO CARBON DIOXIDE AND WATER.

Hazardous Polymerization:

MAY OCCUR: NO

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

ALL OTHER INGREDIENTS DO NOT APPEAR ON EITHER THE OSHA, NIOSH OR MASS LIST.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

NO DATA

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

WHEN SPRAYING MORE THAN ONE HALF CAN CONTINUOUSLY OR MORE THAN ONE
CAN CONSECUTIVELY, USE NIOSH
APPROVED RESPIRATOR.

Work/Hygienic Practices:

DO NOT SMOKE WHILE USING. WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

NO DATA

Label Information:

NO DATA

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

NO DATA

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

NO DATA.

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MSDS Number: **65382**

Sales Division: **CURTIS**

Product Description: **BATTERY CLEANER**

Product Number:

**** MATERIAL SAFETY DATA SHEET ****

BATTERY CLEANER

Part # 65382

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MSDS Name: BATTERY CLEANER

Product CAS: (none)

Product Code:

Synonyms: 65382; BATTERY CLEANER

Company Identification:

Name: KAR PRODUCTS

Address: 461 N. THIRD AVE.

Address:

City: DES PLAINES State: IL Zip: 60016

For information, call: 847-296-6111

Emergency Number: 800-752-7869

Emergency Agency:

Number:

MSDS Creation Date: 1/26/2004

Supersedes Date:

Miscellaneous:

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
PROPANE	74-98-6	0	99

Miscellaneous:

CHEMICAL	OSHA PEL	ACGIH TLV	OTHER LIMITS	PERCENTAGE
PROPANE	1000PPM	E/ASPHYXIAN		0.0 - 99.0

Lbs of VOC per Gallon Coating (minus water): 0

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 1 Fire: 4 Reactivity: 0 Other:

HMIS: Health: Fire: Reactivity: Special Protection:

POTENTIAL HEALTH EFFECTS

Target Organs:

Eye:

MAY CAUSE REDNESS AND BURNING.

Skin:

WILL CAUSE DEFATTING OF THE SKIN.

Ingestion:

GENERATED MISTS MAY BE SEVERELY IRRITATING AND CAUSE DAMAGE TO RESPIRATORY TRACT IF SWALLOWED. HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD IF SWALLOWED.

Inhalation:

MAY CAUSE DIZZINESS OR NARCOSIS IN HIGH VAPOR CONCENTRATIONS.

Miscellaneous:

THE PROPELLANT CAN ATTACK THE CENTRAL NERVOUS SYSTEM.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: HEART DISEASE.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

WASH EYES WITH WATER FOR LEAST 15 MIN AND CALL A PHYSICIAN IMMEDIATELY.

Skin:

WASH SKIN WITH LARGE AMOUNTS OF SOAP AND WATER. IF IRRITATION PERSISTS CALL PHYSICIAN.

Ingestion:

CALL PHYSICIAN IMMEDIATELY.

Inhalation:

REMOVE TO FRESH AIR. START ARTIFICIAL RESPIRATION IF NECESSARY. OXYGEN MAY BE ADMINISTERED. CALL A PHYSICIAN.

Notes to Physician:

Miscellaneous:

IF YOU HAVE A MEDICAL CONDITION CONSULT WITH A PHYSICIAN PRIOR TO USING THIS PRODUCT.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

HEATED CANS MAY BURST.

Special Fire Fighting Procedures:

CANS MAY RUPTURE WHEN HEATED.

Extinguishing Media:

USE WATER FOG, DRY CHEMICAL OR CARBON DIOXIDE.

Flash Point:

-40.0 DEG F

Flammable Limits:

Lower Limit:

1.8%

Upper Limit:

12.0%

Autolgnition Temperature:

NA

General Information:

METHOD USED: T.O.C.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL

REQUIREMENTS.

Spills/Leaks:

USE ABSORBENT SWEEPING COMPOUND TO SOAK UP MATERIAL. PUT INTO CONTAINER. DISPOSE OF AS HAZARDOUS WASTE.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

KEEP AWAY FROM HEAT, SPARKS, OR OPEN FLAME. CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS.

Storage:

STORE AT TEMPERATURES BELOW 120 F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST: YES

MECHANICAL (GENERAL): NONE

SPECIAL VENTILATION: NONE

OTHER VENTILATION: NONE

Eyes:

WEAR EYE PROTECTION. WEAR GLASSES OR GOGGLES.

Skin:

PROTECTIVE GLOVES: NONE REQUIRED IF SPRAYING.

Clothing:

LONG SLEEVE AND LONG PANTS. WEAR APPROPRIATE EQUIPMENT TO PREVENT SKIN FREEZING. IMMEDIATELY REMOVE ANY CLOTHING THAT BECOME WET TO AVOID A FLAMMABILITY HAZARD.

Respirators:

SELF CONTAINED BREATHING APPARATUS IF ABOVE TLV LIMIT EXCEEDING.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

WHITE FOAM- NO ODOR.

pH: NA

Vapor Pressure: 31 PSIG AT 70.0 DEG F

Vapor Density: 4.0

Evaporation Rate: 0.1

Viscosity: NA

Boiling Point: 212.0 DEG F

Freezing/Melting Point: NA

Decomposition Temperature: NA

Solubility: IN WATER: VERY SOLUBLE

Specific Gravity: .7

Molecular Formula: N/A

Molecular Weight: NA

Miscellaneous:

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE: YES

Conditions to Avoid:

HIGH TEMPERATURES.

Incompatibilities with Other Materials:

STRONG OXIDIZERS.

Hazardous Decomposition Products:

IN FIRE WILL DECOMPOSE TO CARBON DIOXIDE AND WATER.

Hazardous Polymerization:

MAY OCCUR: NO

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

ALL OTHER INGREDIENTS DO NOT APPEAR ON EITHER THE OSHA, NIOSH OR MASS LIST.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

NO DATA

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

WHEN SPRAYING MORE THAN ONE HALF CAN CONTINUOUSLY OR MORE THAN ONE
CAN CONSECUTIVELY, USE NIOSH
APPROVED RESPIRATOR.

Work/Hygienic Practices:

DO NOT SMOKE WHILE USING. WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

NO DATA

Label Information:

NO DATA

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

NO DATA

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

NO DATA



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : MSDS21948
Item No. : 21948

**** MATERIAL SAFETY DATA SHEET ****

BATTERY TERMINAL PROTECTOR

Part # MSDS21948

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BATTERY TERMINAL PROTECTOR

Product CAS: (none)

Product Code:

Synonyms: 21948; BATTERY TERMINAL PROTECTOR

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: HEALTH ISSUES AND TECHNICAL INFORMATION (8AM-5PM ET): 1-216-416-7200 X 5

60

Emergency Number: ROCKY MOUNTAIN POISON CONTROL CENTER (24 HOURS EVERYDAY): 1-303-623-5716

Emergency Agency: CHEMTREC (24 HOURS EVERYDAY)

Number: 1-800-424-9300

MSDS Creation Date: 1/1/2003

Supersedes Date: 8/24/2000

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
XYLENE	1330-20-7	0	2
ALIPHATIC HYDROCARBON	64742-89-8	17	21
TRIMETHYLBENZENE	95-63-6	3	7
PROPANE/BUTANE BLEND	68476-86-8	21	25
ETHYLBENZENE	(none)	0	0

Miscellaneous:

NOTE: SEE BELOW FOR EXPOSURE LIMIT DATA FOR THESE INGREDIENTS.

EXPOSURE CONTROLS:

INGREDIENT	OSHA	ACGIH	OTHER LIMITS
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	PEL	TLV	
XYLENE	100 PPM	100 PPM	-
ALIPHATIC HYDROCARBON	N.E.	N.E.	300 PPM
TRIMETHYLBENZENE	1000 PPM	N.E.	-
PROPANE/BUTANE BLEND	25 PPM	25 PPM	-

Lbs of VOC per Gallon Coating (minus water): 0
 Coating Density (lbs/gal): 0
 Solvent Density (lbs/gal): 0
 Percent Solvent (volume): 0
 Percent Solids (volume): 0
 Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 2 Fire: 4 Reactivity: 0 Other:
 HMIS: Health: 2 Fire: 4 Reactivity: 0 Special Protection:

Miscellaneous:
 EMERGENCY OVERVIEW:

CONDITIONS TO AVOID: EXCESSIVE INHALATION OF VAPORS.

APPEARANCE AND ODOR: TYPICAL SOLVENT PAINT.

HMIS AND NFPA HAZARD RATINGS:

CATEGORY	HMIS	NFPA
PERSONAL PROT./SPECIFIC HAZ.	E	-

POTENTIAL HEALTH EFFECTS

Target Organs:
 PRIMARY ROUTES OF EXPOSURE: INHALATION, SKIN CONTACT, EYE CONTACT.

Eye:
 SYMPTOMS OF OVEREXPOSURE: ACUTE: CONTACT - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.

Skin:
 MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: CAN CAUSE ALLERGIC SKIN REACTION.

SYMPTOMS OF OVEREXPOSURE: ACUTE: CONTACT - CAN CAUSE IRRITATION, PROLONGED CAN CAUSE DRYNESS AND CRACKING OF SKIN.

Ingestion:
 SYMPTOMS OF OVEREXPOSURE: ACUTE: SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

Inhalation:

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: CAN CAUSE ALLERGIC RESPIRATORY

SYMPTOMS OF OVEREXPOSURE: ACUTE: BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE, POSSIBLE UNCONSCIOUSNESS, AND ASPHYXIATION.

Miscellaneous:

SYMPTOMS OF OVEREXPOSURE: CHRONIC: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT AND NERVOUS SYSTEM DAMAGE. SEVERE

OVEREXPOSURE IN LABORATORY ANIMALS HAS ALSO CAUSED LIVER ABNORMALITIES AND DAMAGE KIDNEYS,

LUNGS, SPLEEN, HEART, AND ADRENALS. INTENTIONAL MISUSE BY DELIBERATELY AND

INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

CONTACT: IF IN EYES: FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET PROMPT MEDICAL ATTENTION.

Skin:

CONTACT: IF ON SKIN: WASH WITH SOAP AND WATER OR VARIOUS HAND CLEANERS AND WASH CLOTHING.

Ingestion:

IF SWALLOWED: DO NOT INDUCE VOMITING (ASPIRATION OF MATERIAL INTO LUNGS CAN CAUSE PNEUMONIC, WHICH CAN BE FATAL). KEEP PERSON WARM AND QUIET AND GET MEDICAL ATTENTION/POISON CONTROL CENTER.

Inhalation:

IF BREATHED: MOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION AND SEEK MEDICAL HELP.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

CLOSED CONTAINERS MAY EXPLODE AND/OR AUTOIGNITE WHEN EXPOSED TO EXTREME HEAT. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM THE MATERIAL HANDLING POINT.

Special Fire Fighting Procedures:

WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTO IGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. IF

WATER IS USED, FOG NOZZLES ARE PREFERABLE. USE A SELF-CONTAINED BREATHING WITH A FULL FACE PIECE.

Extinguishing Media:
CARBON DIOXIDE, DRY CHEMICAL, OR ALCOHOL FOAM.

Flash Point:
0 OF; -18 OC; PROPELLANT = - 100 OF.

Flammable Limits:
Lower Limit:
(%): LEL 1.0
Upper Limit:
(%): UEL N.D.

AutoIgnition Temperature:

General Information:
UNIFORM FIRE CODE: LEVEL 3 AEROSOL.

FLAMMABILITY CLASSIFICATION: EXTREMELY FLAMMABLE.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:
WASTE DISPOSAL METHOD MATERIAL COLLECTED MAY BE DEPOSITED IN A POSTED TOXIC SUBSTANCE LANDFILL
IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

Spills/Leaks:
ELIMINATE ALL IGNITION SOURCES. VENTILATE AREA. ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR
ABSORBENT MATERIAL, AND TRANSFER TO A CLOSED CONTAINER.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
SEE "STORAGE".

Storage:
DO NOT STORE IN AREAS ABOVE 120 DEG F (49 DEG C) OR IN DIRECT SUNLIGHT OR NEAR HEAT OR OPEN
FLAMES. DO NOT PUNCTURE OR INCINERATE.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
VENTILATION - FOR REGULAR/CONTINUOUS USE, PROVIDE SUFFICIENT MECHANICAL

(GENERAL) AND/OR LOCAL EXHAUST TO MAINTAIN EXPOSURES BELOW TLV'S IN SECTION II.

Eyes:

CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS, ARE ADVISED.

Skin:

PROTECTIVE GLOVES: WEAR CHEMICAL-RESISTANT GLOVES SUCH AS NEOPRENE, IF SKIN CONTACT IS TO BE AVOIDED.

Clothing:

OTHER PROTECTIVE EQUIPMENT: WHERE SPECIAL OR UNUSUAL CONDITIONS EXIST, SEEK THE EXPERT ASSISTANCE OF AN INDUSTRIAL HYGIENIST.

Respirators:

FOR CASUAL, OCCASIONAL USE - TO AVOID BREATHING VAPORS OR SPRAY MIST, OPEN WINDOWS AND DOORS OR EMPLOY SUFFICIENT VENTILATION TO ENSURE FRESH-AIR ENTRY DURING APPLICATION AND DRYING. IF YOU EXPERIENCE EYE WATERING, HEADACHE OR DIZZINESS, WEAR RESPIRATORY PROTECTION OR THE AREA.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

TYPICAL SOLVENT PAINT.

pH: N.A.

Vapor Pressure: UNKNOWN FOR PRODUCTS.

Vapor Density: (AIR = 1): GT 1.

Evaporation Rate: (BUAC=1): GT 1.

Viscosity:

Boiling Point: 104 DEG F; 40 DEG C.

Freezing/Melting Point: MELTING POINT: ESTIMATED 1500 OF.

Decomposition Temperature:

Solubility: IN WATER: SLIGHT.

Specific Gravity: 1

Molecular Formula:

Molecular Weight:

Miscellaneous:

MATERIAL IS: LIQUID.

% VOLATILE BY VOLUME: 80 - 90

SPECIFIC GRAVITY (WATER = 1): LT 1.

WEIGHT PER GALLON: 6.0 - 6.3.

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE.

Conditions to Avoid:

STABILITY: HEAT, SPARKS, AND OPEN FLAMES.

HAZARDOUS POLYMERIZATION: N.A.

Incompatibilities with Other Materials:

CONDITIONS TO AVOID: AVOID CONTACT WITH STRONG OXIDIZING AGENTS AND HEAT.

Hazardous Decomposition Products:

MAY FORM CARBON DIOXIDE, CARBON MONOXIDE, NITROGEN COMPOUNDS, ETC. WHEN BURNED.

Hazardous Polymerization:

WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

CARCINOGENICITY: IARC. CONTAINS ETHYLBENZENE AS A COMPONENT OF XYLENE AND/OR MINERAL SPIRITS.

ETHYLBENZENE IS CLASSIFIED AS POSSIBLY CARCINOGENIC TO HUMANS BASED ON ANIMAL DATA; HOWEVER, THERE IS INADEQUATE EVIDENCE FOR CANCER IN EXPOSED HUMANS.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

NO DATA AVAILABLE.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

STORE LARGE QUANTITIES IN BUILDINGS PROTECTED FOR STORAGE OF NFPA CLASS FLAMMABLE LIQUIDS.

Work/Hygienic Practices:

WASH HANDS BEFORE EATING OR USING WASHROOM. AS WITH ALL CHEMICALS, MINIMIZE PERSONAL CONTACT.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

DOT SHIPPING NAME: CONSUMER COMMODITY.

HAZARD CLASS OR DIVISION: ORM-D.

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:

TSCA STATUS: ALL COMPONENTS ARE EITHER LISTED ON, OR ARE EXEMPT FROM THE TSCA

NSR STATUS (CANADA): N.D.

SARA TITLE III:

HAZARD CATEGORIES:

ACUTE HEALTH: YES

CHRONIC HEALTH: YES

FIRE HAZARD: YES

PRESSURE HAZARD: YES

REPORTABLE INGREDIENTS:

SECTION 302/303: NONE.

SECTION 313: TRIMETHYLBENZENE, XYLENE.

EXTREMELY HAZARDOUS SUBSTANCES: NONE.

CERCLA RQ: N.A.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

N.A. - NOT APPLICABLE N.D. - NOT DETERMINED N.E. - NOT ESTABLISHED

REVISION SUMMARY: PREPARED AUGUST 24, 2000.



Barnes Distribution

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Material Safety Data Sheet

MSDS Form No. : MSDS24620

Item No. : 24620

**** MATERIAL SAFETY DATA SHEET ****

BOWMAN GLOSS BLACK HIGH SOLIDS COATING

Part # MSDS24620

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: BOWMAN GLOSS BLACK HIGH SOLIDS COATING

Product CAS: (none)

Product Code:

Synonyms: 24620; BOWMAN GLOSS BLACK HIGH SOLIDS COATING

Company Identification:

Name: BOWMAN DISTRIBUTION

Address: 1301 E. 9TH ST., ST. 700

Address:

City: CLEVELAND State: OH Zip: 44114

For information, call: HEALTH ISSUES AND TECHNICAL INFORMATION (8AM-5PM ET): 1-216-416-7200 X 5

60

Emergency Number:

Emergency Agency: CHEMTREC (24 HOURS EVERYDAY) / ROCKY MOUNTAIN POISON CONTROL CENTER (24 HOURS EVERYDAY)

Number: 800-424-9300 / 303-623-5716

MSDS Creation Date: 1/1/2003

Supersedes Date: 3/29/2000

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
ACETONE	67-64-1	20	20
PROPANE	74-98-6	20	20
N-BUTANE	106-97-8	10	10
XYLENE	1330-20-7	10	10
METHYL ISO-BUTYL KETONE	108-10-1	5	5
SC 100 SOLVENT	64742-95-6	5	5
GLYCOL ETHER EP	2807-30-9	5	5
ETHYL BENZENE	100-41-4	5	5
CARBON BLACK PIGMENT	1333-86-4	5	5
MINERAL SPIRITS	64742-47-8	5	5
CALCIUM CARBONATE	1317-65-3	3	3

LINSEED ALKYD RESIN

(none)

3

3

Miscellaneous:

INGREDIENTS	% BY WEIGHT
ACETONE	LT 20
PROPANE	LT 20
N-BUTANE	LT 10
XYLENE	LT 10
METHYL ISO-BUTYL KETONE	LT 5
SC 100 SOLVENT	LT 5
GLYCOL ETHER EP	LT 5
ETHYL BENZENE	LT 5
CARBON BLACK PIGMENT	LT 5
MINERAL SPIRITS	LT 5
CALCIUM CARBONATE	GT 3
LINSEED ALKYD RESIN	GT 3 (CAS NO.: N.A.)

NOTE: SEE BELOW FOR EXPOSURE LIMIT DATA FOR THESE INGREDIENTS

INGREDIENT	OSHA PEL TWA	ACGIH TLV TWA	STEL
ACETONE	750 PPM	750 PPM	1000 PPM
PROPANE	1000 PPM	1000 PPM	N.E.
N-BUTANE	800 PPM	800 PPM	N.E.
XYLENE	100 PPM	100 PPM	150 PPM
METHYL ISO-BUTYL KETONE	50 PPM	50 PPM	75 PPM
SC 100 SOLVENT	N.E.	N.E.	N.E.
GLYCOL ETHER EP	25 PPM	25 PPM	N.E.
ETHYL BENZENE	100 PPM	100 PPM	125 PPM
CALCIUM CARBONATE	N.D.	N.D.	N.E.
LINSEED ALKYD RESIN	N.D.	N.D.	N.E.
CARBON BLACK PIGMENT	3.5 MG/M3	3.5 MG/M3	N.D.
MINERAL SPIRITS	500 PPM	100 PPM	N.E.

Lbs of VOC per Gallon Coating (minus water): 3.2

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 1 Fire: 4 Reactivity: 3 Other:

HMIS: Health: 1 Fire: 4 Reactivity: 3 Special Protection:

Miscellaneous:

EMERGENCY OVERVIEW:

APPEARANCE AND ODOR: AROMATIC LIQUID.

PERSONAL PROT./SPECIFIC HAZ.: * / 0

*REFER TO SECTION 8.

POTENTIAL HEALTH EFFECTS

Target Organs:

PRIMARY ROUTES OF EXPOSURE: INHALATION , INGESTION, SKIN CONTACT, SKIN ABSORPTION, EYE CONTACT.

Eye:

HEALTH HAZARDS (ACUTE AND CHRONIC-INCLUDE ORGAN EFFECTS): LIQUID AEROSOLS AND VAPORS OF THIS PRODUCT ARE IRRITATING AND CAN CAUSE PAIN, TEARING, REDDENING AND SWELLING ACCOMPANIED BY A STINGING SENSATION AND/OR A FEELING LIKE THAT OF FINE DUST IN THE EYES.

Skin:

HEALTH HAZARDS (ACUTE AND CHRONIC-INCLUDE ORGAN EFFECTS): CAUSES SKIN IRRITATION. ALLERGIC REACTIONS ARE POSSIBLE. PROLONGED OR REPEATED CONTACT CAN RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN SKIN IRRITATION AND DERMATITIS (RASH).

Ingestion:

HEALTH HAZARDS (ACUTE AND CHRONIC-INCLUDE ORGAN EFFECTS): THIS MATERIAL MAY BE HARMFUL OR FATAL IF SWALLOWED. IRRITATING TO MOUTH, NOSE, THROAT AND STOMACH. CHRONIC HAZARDS: POSSIBLE REPRODUCTIVE HAZARD.

Inhalation:

HEALTH HAZARDS (ACUTE AND CHRONIC-INCLUDE ORGAN EFFECTS): HEADACHES, DIZZINESS, NAUSEA, DECREASED BLOOD PRESSURE, CHANGES IN HEART RATE AND CYANOSIS MAY RESULT FROM OVER-EXPOSURE TO VAPOR OR SKIN EXPOSURE. PROLONGED INHALATION MAY BE HARMFUL.

Miscellaneous:

CONDITIONS TO AVOID: PROLONGED INHALATION MAY BE HARMFUL. HARMFUL OR FATAL IF SWALLOWED. ALSO SEE HEALTH HAZARDS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N.D.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: SEE HEALTH HAZARDS.

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER. GET MEDICAL ATTENTION, IF IRRITATION PERSISTS.

Skin:

WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS. REMOVE CONTAMINATED CLOTHING. WASH SKIN WITH SOAP AND WATER. GET MEDICAL ATTENTION.

Ingestion:

IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE VICTIM A GLASS OF WATER OR MILK. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Inhalation:

REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET IMMEDIATE MEDICAL ATTENTION. RESCUERS SHOULD PUT ON APPROPRIATE PROTECTIVE GEAR. REMOVE FROM AREA OF EXPOSURE. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. KEEP VICTIM WARM. GET IMMEDIATE MEDICAL ATTENTION.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

VAPORS MAY FORM EXPLOSIVE MIXTURE WITH AIR.

Special Fire Fighting Procedures:

CONTAINERS CAN BUILD UP PRESSURE IF EXPOSED TO HEAT (FIRE). AS IN ANY FIRE, EAR SELF-CONTAINED BREATHING APPARATUS PRESSURE-DEMAND (MSHA/NIOSH APPROVED OR EQUIVALENT) AND FULL PROTECTIVE GEAR.

Extinguishing Media:

ALCOHOL FOAM, CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER FOG.

Flash Point:

AND METHOD: -4 F; METHOD USED: N.D.

Flammable Limits:

Lower Limit:

(%) LEL: 0.7

Upper Limit:

(%) UEL: 12.8

AutoIgnition Temperature:

General Information:

EMERGENCY OVERVIEW: MAY CAUSE FLASH FIRE OR EXPLOSION.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE OF IN ACCORDANCE TO LOCAL, STATE AND FEDERAL REGULATIONS. DO NOT PUNCTURE, INCINERATE, OR COMPACT.

RCRA HAZARDOUS WASTE NUMBER: N.D.

Spills/Leaks:

ABSORB SPILL WITH INERT MATERIAL (E.G. DRY SAND OR EARTH), THEN PLACE IN A CHEMICAL WASTE CONTAINER.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

WASH THOROUGHLY AFTER HANDLING.

Storage:

KEEP AWAY FROM HEAT, SPARKS AND FLAME.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST VENTILATION MAYBE NECESSARY TO CONTROL ANY AIR CONTAMINANTS TO WITHIN THEIR TLVS DURING USE OF PRODUCT.

Eyes:

WEAR SAFETY GLASSES WITH SIDE SHIELDS (OR GOGGLES) AND A FACE SHIELD.

Skin:

WHERE CONTACT IS LIKELY, USE CHEMICAL RESISTANT GLOVES.

Clothing:

OTHER PROTECTIVE EQUIPMENT: WHERE CONTACT IS LIKELY, WEAR A CHEMICAL SUIT AND BOOTS.

WHERE SPLASHING IS POSSIBLE, FULL CHEMICALLY RESISTANT PROTECTIVE CLOTHING (E.G. ACID SUIT) AND BOOTS ARE REQUIRED.

Respirators:

A NIOSH/MSHA APPROVED AIR PURIFYING RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE OR CANISTER MAY BE PERMISSIBLE UNDER CERTAIN CIRCUMSTANCES WHERE AIRBORNE CONCENTRATIONS ARE EXPECTED TO EXCEED EXPOSURE LIMITS. PROTECTION PROVIDED BY AIR PURIFYING RESPIRATORS IS LIMITED. USE POSITIVE PRESSURE AIR SUPPLIED RESPIRATOR IF THERE IS ANY POTENTIAL FOR AN UNCONTROLLED RELEASE, EXPOSURE LEVELS ARE NOT KNOWN, OR ANY OTHER CIRCUMSTANCES WHERE AIR PURIFYING RESPIRATORS MAY NOT PROVIDE ADEQUATE PROTECTION.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

AROMATIC LIQUID.

pH: N.A.

Vapor Pressure: 40 PSI

Vapor Density: (AIR = 1): GT 1

Evaporation Rate: (ETHER = 1): GT 1

Viscosity:

Boiling Point: -44 TO 344 F

Freezing/Melting Point:

Decomposition Temperature:

Solubility: IN WATER: SLIGHT

Specific Gravity: .8364
Molecular Formula:
Molecular Weight:
Miscellaneous:
% VOLATILE BY WT. (%): 46.39%
WEIGHT PER GALLON: 6.89
VOLATILE ORGANIC COMPOUND : 3.2 LB/GAL

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
STABLE

Conditions to Avoid:
STABILITY: DO NOT STORE ABOVE 120 F. KEEP AWAY FROM SPARKS, PILOT LIGHTS, AND/OR OPEN FLAMES.

HAZARDOUS POLYMERIZATION: THIS PRODUCT IS STABLE UNDER NORMAL CONDITIONS.

Incompatibilities with Other Materials:
NO INFORMATION.

Hazardous Decomposition Products:
MAY PRODUCE HAZARDOUS FUMES WHEN HEATED TO DECOMPOSITION. FUMES MAY CONTAIN CARBON DIOXIDE
AND/OR CARBON MONOXIDE.

Hazardous Polymerization:
WILL NOT OCCUR.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:
CARCINOGENICITY: NONE.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:
THIS PRODUCT DOES NOT CONTAIN CHLORINATED SOLVENTS OR LEAD.

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

Work/Hygienic Practices:

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:
DOT SHIPPING NAME: CONSUMER COMMODITY, ORM-D

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:
TSCA STATUS: EACH INGREDIENT IS ON THE TSCA INVENTORY.

NSR STATUS (CANADA): NOT DOCUMENTED.

SARA TITLE III:

HAZARD CATEGORIES:
ACUTE HEALTH: YES
CHRONIC HEALTH: YES
FIRE HAZARD: YES
PRESSURE HAZARD: YES

REPORTABLE INGREDIENTS:
SECTION 302/303: NONE.
SECTION 313: ACETONE, XYLENE, METHYL ISO-BUTYL KETONE, GLYCOL ETHER EP, ETHYL BENZENE.

CERCLA RQ: N.D.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:
N.A. NOT APPLICABLE
N.D. NOT DETERMINED
N.E. NOT ESTABLISHED

REVISION SUMMARY: THIS MSDS REPLACES THE MARCH 6, 1998 MSDS. PREPARED MARCH 29, 2000.



Barnes Distribution

1301 E. 9th Street, #700
Cleveland OH 44114
(800) 726-9626



Material Safety Data Sheet

MSDS Form No. : 75757
Item No. : 243901, 243901-1

**** MATERIAL SAFETY DATA SHEET ****

GRAFFITI REMOVER

Part # 75757

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: GRAFFITI REMOVER

Product CAS: (none)

Product Code:

Synonyms: 243901; 243901-1; GRAFFITI REMOVER

Company Identification:

Name: American Jetway Corporation

Address: 34136 Myrtle Street

Address:

City: Wayne State: MI Zip: 48184

For information, call: (734) 721-5930

Emergency Number:

Emergency Agency: CHEMTREC

Number: 800-424-9300

MSDS Creation Date: 1/1/2003

Supersedes Date: 12/31/1999

Miscellaneous:

PRODUCT/TRADE NAME(S): 243901, 243901-1, ANTI-GRAFFITI TM 1878, A-3069.

CAS #: N/A

CHEMICAL NAME: N/A

BRIEF DESCRIPTION: N/A

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
ACETONE1	67-64-1	30	30
ETHYL BENZENE	100-41-4	20	20
PM ACETATE	108-65-6	10	10
PROPANE	74-98-6	20	20
ISOBUTANE	75-28-5	20	20
N-BUTANE	106-97-8	20	20
XYLENE	1330-20-7	50	50

Miscellaneous:

HAZARDOUS INGREDIENTS/IDENTITY INFORMATION:

ACETONE: OSHA PEL: 750; ACGIH TLV: 750; STEL: 1000

*XYLENE: OSHA PEL: 100; ACGIH TLV: 100; STEL: 150

PM ACETATE: OSHA PEL/ACGIH TLV/STEL: NOT ESTABLISHED

PROPANE/ISOBUTANE/N-BUTANE: OSHA PEL: 1000; ACGIH TLV: 1000; STEL:
ASPHYXIAN

TECHNICAL GRADE XYLENE CONTAINS 18-20% ETHYL BENZENE (100-41-4) WHICH HAS
100 PPM PEL, 100 PPM TLV, 125 PPM STEL AND IS SUBJECT TO THE REPORTING
REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

ALL CHEMICAL COMPOUNDS MARKED WITH AS ASTERISK () ARE TOXIC CHEMICALS SUBJECT TO
THE
REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND
REAUTHORIZATION ACT (SARA) OF 1986 AND 40 CFR PART 372. YOU MUST NOTIFY EACH
TO WHOM
THIS MIXTURE OR TRADE NAME PRODUCT IS SOLD. THIS STATEMENT MUST REMAIN A PART OF
THIS MATERIAL
SAFETY DATA SHEET.

Lbs of VOC per Gallon Coating (minus water): 0

Coating Density (lbs/gal): 0

Solvent Density (lbs/gal): 0

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

**** SECTION 3 - HAZARDS IDENTIFICATION ****

NFPA: Health: 2 Fire: 4 Reactivity: 0 Other:

HMIS: Health: 1 Fire: 4 Reactivity: 0 Special Protection:

POTENTIAL HEALTH EFFECTS

Target Organs:

Eye:

HEALTH HAZARDS (ACUTE AND CHRONIC): EYE IRRITANT.

Skin:

ROUTE OF ENTRY. HEALTH HAZARDS (ACUTE AND CHRONIC): WILL CAUSE DEFATTING
OF SKIN. EFFECTS ARE REVERSIBLE. SKIN IRRITANT. SIGNS AND SYMPTOMS OF
EXPOSURE: SKIN - REDNESS.

Ingestion:

ROUTE OF ENTRY. HEALTH HAZARDS (ACUTE AND CHRONIC): ASPIRATION HAZARD IF
SWALLOWED. SIGNS AND SYMPTOMS OF EXPOSURE: INGESTION - VOMITING.

Inhalation:

ROUTE OF ENTRY. HEALTH HAZARDS (ACUTE AND CHRONIC): MAY CAUSE DIZZINESS
OR NARCOSIS IN HIGH VAPOR CONCENTRATIONS. LONG TERM EXPOSURE (YEARS) TO
HIGH CONCENTRATIONS OF VAPOR MAY CAUSE LUNG, LIVER OR KIDNEY DAMAGE. THE
SOLVENTS LISTED HAVE BEEN REPORTED TO AFFECT THE CENTRAL NERVOUS SYSTEM.
MAY IRRITATE RESPIRATORY TRACT. DELIBERATELY CONCENTRATING AND INHALING
THE VAPOR OF THE CONTENTS MAY BE HARMFUL OR FATAL. MAY CAUSE CARDIAC
ABNORMALITIES. PM ACETATE MAY IRRITATE MUCOUS MEMBRANES. SIGNS AND
SYMPTOMS OF EXPOSURE: INHALATION - DIFFICULTY IN BREATHING. MEDICAL

CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: HEART DISEASE, RESPIRATORY DISORDERS.

Miscellaneous:

**** SECTION 4 - FIRST AID MEASURES ****

Eye:

WASH EYES WITH WATER FOR 15 MINUTES. GET MEDICAL HELP.

Skin:

WASH SKIN WITH WATER FOR 15 MINUTES.

Ingestion:

DO NOT INDUCE VOMITING. NEVER ADMINISTER ADRENALINE FOLLOWING OVEREXPOSURE.

Inhalation:

GIVE OXYGEN.

Notes to Physician:

**** SECTION 5 - FIRE FIGHTING MEASURES ****

Unusual Fire and Explosion Hazards:

HEATED CANS MAY BURST. NFPA 30B RATING: 3.

Special Fire Fighting Procedures:

KEEP CONTAINERS COOL. USE EQUIPMENT OR SHIELDING REQUIRED TO PROTECT AGAINST BURSTING OR VENTING CONTAINERS.

Extinguishing Media:

USE WATER FOG, DRY CHEMICAL OR CARBON DIOXIDE.

Flash Point:

-142 F; METHOD USED: TCC

Flammable Limits:

Lower Limit:

(LEL): 1.8%

Upper Limit:

(UEL): 9.5%

AutoIgnition Temperature:

General Information:

FLAMMABLE LIMITS: NO DATA

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

Disposal:

DISPOSE AS HAZARDOUS WASTE IN ACCORDANCE WITH EPA RCRA.

Spills/Leaks:

USE ABSORBENT SWEEPING COMPOUND TO SOAK UP MATERIAL. PUT INTO CONTAINER. DISPOSE AS HAZARDOUS WASTE.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

KEEP AWAY FROM HEAT, SPARKS, OR OPEN FLAME.

Storage:

STORE AT TEMPERATURES BELOW 120 F.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

LOCAL EXHAUST: YES

MECHANICAL (GENERAL): NONE

SPECIAL VENTILATION: NONE

OTHER VENTILATION: NONE

Eyes:

WEAR EYE PROTECTION

Skin:

PROTECTIVE GLOVES: NONE REQUIRED IF SPRAYING

Clothing:

AND OTHER PROTECTIVE EQUIPMENT: LONG SLEEVE AND LONG PANTS.

Respirators:

USE NIOSH APPROVED RESPIRATOR IF TLV LIMIT IS EXCEEDED.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Appearance/Odor:

CLEAR/SOLVENT

pH: NO DATA

Vapor Pressure: (MM HG.): PSIG AT 70 F: 40

Vapor Density: (AIR = 1): HEAVIER THAN AIR: 4.0

Evaporation Rate: (BUTYL ACETATE=1): GT 1

Viscosity:

Boiling Point: RANGE: -40 F TO 302 F

Freezing/Melting Point: MELTING POINT: NA

Decomposition Temperature:

Solubility: IN WATER: NIL

Specific Gravity: .7

Molecular Formula: N/A

Molecular Weight:

Miscellaneous:

% VOLATILE / VOLUME: NO DATA

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

STABLE: YES

Conditions to Avoid:

STABILITY: HIGH TEMPERATURES. POLYMERIZATION: NONE.

Incompatibilities with Other Materials:

INCOMPATIBLE WITH STRONG OXIDIZERS, MINERAL ACIDS, ALKALIES.

Hazardous Decomposition Products:

OR BYPRODUCTS: IN FIRE, WILL DECOMPOSE TO CARBON DIOXIDE, WATER.

Hazardous Polymerization:

MAY OCCUR: NO

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

Toxicological Information:

CARCINOGENICITY:

WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecological Information:

**** SECTION 13 - OTHER PRECAUTIONS ****

Other Precautions:

WHEN SPRAYING MORE THAN ONE HALF CAN CONTINUOUSLY OR MORE THAN ONE CAN CONSECUTIVELY, USE NIOSH APPROVED RESPIRATOR.

Work/Hygienic Practices:

DO NOT SMOKE WHILE USING. WASH HANDS AFTER USE.

**** SECTION 14 - TRANSPORT INFORMATION ****

Transportation Information:

CATEGORY: ORM-D

PRODUCT IDENTIFICATION: DOT SHIPPING - CONSUMER COMMODITY ORM-D

Label Information:

**** SECTION 15 - REGULATORY INFORMATION ****

Regulatory Information:
REFER TO SECTION 2.

**** SECTION 16 - ADDITIONAL INFORMATION ****

Additional Information:

ISSUE DATE: 13-AUG-2001

MATERIAL SAFETY DATA SHEET

BetzDearborn Canada, Inc. *
3451 Erindale Station Road
Mississauga, ON L5C 2S9
Business telephone: (905) 279-2222

EMERGENCY TELEPHONE (HEALTH/ACCIDENT)
(800) 963-5222 (Canada)

HMIS RATINGS
(See Section 16 for
additional information)
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

* Hercules Canada, Inc. and BetzDearborn Canada, Inc. carrying on business as Hercules Canada

1 PRODUCT IDENTIFICATION

PRODUCT NAME:

CAT SUPPLEMENTAL COOLANT ADDITIVE

PRODUCT APPLICATION AREA:

CATERPILLAR PART NUMBERS: 2Y2523, 3P2044, 5P2907, 6V3542, 8C3680, 8T1589.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Information for specific product ingredients as required by the WHMIS Regulations is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

Cas#	Chemical Name	Range (w/w%)
7632-00-0	SODIUM NITRITE Oxidizer; toxic (by ingestion); potential blood toxin ORAL LD50-RAT: 85 MG/KG DERMAL LD50: NO DATA. INHL. LC50-RAT: 1.45 MG/L/4HR	3-7
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE Irritant (abraded skin); slight irritant (respiratory) ORAL LD50-RAT: 3,400 MG/KG DERMAL LD50-RABBIT: >2,000 MG/KG INHL. LC50: NO DATA.	3-7

10213-79-3	SODIUM METASILICATE, PENTAHYDRATE Corrosive (eyes, skin, and respiratory); potential kidney toxin ORAL LD50: NO DATA. DERMAL LD50: NO DATA. INHL. LC50: NO DATA.	3-7
7631-99-4	SODIUM NITRATE Oxidizer; potential blood toxin ORAL LD50-RAT: 3,236 MG/KG DERMAL LD50: NO DATA. INHL. LC50: NO DATA.	1-5

HAZARDOUS INGREDIENTS (continued):

No component is considered to be a carcinogen by the U.S. National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or under WHMIS.

3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

May cause slight irritation to the skin. Severe irritant to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

Odor: Slight; Appearance: Red-Purple, Liquid

Fire fighters should wear positive pressure self-contained breathing apparatus(full face-piece type). Proper fire-extinguishing media: dry chemical, carbon dioxide, foam or water

POTENTIAL HEALTH EFFECTS

ACUTE SKIN EFFECTS:

Primary route of exposure; May cause slight irritation to the skin.

ACUTE EYE EFFECTS:

Severe irritant to the eyes.

ACUTE RESPIRATORY EFFECTS:

Mists/aerosols may cause irritation to upper respiratory tract.

INGESTION EFFECTS:

May cause gastrointestinal irritation.

TARGET ORGANS:

Prolonged or repeated exposures may cause CNS depression and/or toxicity to the kidney and blood.

MEDICAL CONDITIONS AGGRAVATED:

Not known.

STORAGE CRITERIA:

Chemical storage.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

INGREDIENT NAME:	CAS No.:	OSHA PEL: TWA:	OSHA PEL: STEL:	ACGIH TLV: TWA:	ACGIH TLV: STEL:	OTHER: TWA:	OTHER: STEL:	UNITS:
1,2,3-PROPANETRICARBOXYLIC ACID,	3012-65-5	N/A	N/A	N/A	N/A	N/A	N/A	
2-HYDROXY-, DIAMMONIUM SALT								
ETHANOL, 2,2', 2'-NITRILOTRIS-	102-71-6	N.E.	N.E.	5	N.E.	N/A	N/A	mg/m3

PROTECTIVE EQUIPMENT:**ENGINEERING CONTROLS:**

Use engineering controls to reduce air contamination to permissible exposure level.

VENTILATION: No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.

RESPIRATORS: No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

PROTECTIVE GLOVES:

For prolonged or repeated skin contact use suitable protective gloves.

EYE PROTECTION:

Wear splash-proof eye goggles to prevent any possibility of eye contact.

PROTECTIVE CLOTHING:

Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES:

Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE:	Clear. Liquid.	
COLOR:	Green.	
ODOR:	Mild (or faint).	
SOLUBILITY DESCRIPTION:	Soluble in water.	
BOILING POINT (°F, interval):	212	PRESSURE: 760mmHg
DENSITY/SPECIFIC GRAVITY (g/ml):	1.11	TEMPERATURE (°F): 61
VAPOR DENSITY (air=1):	>1	
VAPOR PRESSURE:	N/D	TEMPERATURE (°F):
EVAPORATION RATE:	<1	REFERENCE: BuAc=1
pH-VALUE, CONC. SOLUTION:	6.5	

10. STABILITY AND REACTIVITY

STABILITY: Normally stable.

CONDITIONS TO AVOID:

Avoid contact with acids and oxidizing substances.

HAZARDOUS POLYMERIZATION:

Will not polymerize.

HAZARDOUS DECOMPOSITION PRODUCTS:

Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

No experimental toxilogical data on the preparation as such is available.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

No data on possible environmental effects have been found.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:

Dispose of in accordance with Local Authority requirements. Confirm disposal procedures with environmental engineer and local regulations.

14. TRANSPORT INFORMATION

PRODUCT RQ: 18,608 pounds due to AMMONIUM CITRATE, DIBASIC.

U.S. DOT:
UN/NA No.: N/A
U.S. DOT HAZARD LABEL: No DOT label requirement noted
U.S. DOT CLASS: Non-Hazardous (No label required).

SEA TRANSPORT:
INFORMATION ON SEA TRANSPORT: Not regulated

AIR TRANSPORT:
INFORMATION ON AIR TRANSPORT: Not regulated

15. REGULATORY INFORMATION

REGULATORY STATUS OF INGREDIENTS:

NAME:	CAS No:	TSCA:	CERCLA:	SARA 302:	SARA 313:	DSL(CAN):
1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, DIAMMONIUM SALT	3012-65-5	Yes	Yes	N/A	N/A	Yes
ETHANOL, 2,2', 2''-NITRILOTRIS-	102-71-6	Yes	N/A	N/A	N/A	Yes

US FEDERAL REGULATIONS:
REGULATORY STATUS:

This Product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented): TSCA: The ingredients of this product are on the TSCA Inventory. SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

STATE REGULATIONS:

STATE REGULATORY STATUS:

This product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented):. PROPOSITION 65: This product does not contain chemicals considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required.

**CANADIAN REGULATIONS:
LABELS FOR SUPPLY:**

REGULATORY STATUS:

This Material Safety Data Sheet has been prepared in compliance with the Controlled Product Regulations.

16. OTHER INFORMATION

NFPA HAZARD RATING:

HEALTH:

Irritation, minor residual injury (1)

FLAMMABILITY:

Will not burn (0).

REACTIVITY:

N/A (0).

SPECIAL HAZARD:

N/A

NPCA HMIS HEALTH:

1 Slight Hazard

PERS. PROTECT. INDEX:

B

PREPARED BY:

Heather Holich

DATE:

November 14, 2001

DISCLAIMER:

While the information and recommendations set forth herein are believed to be accurate as of the date thereof, Chemtool Incorporated makes no warranty with respect thereto and disclaims all liability from reliance therein.

MSDS - Material Safety Data Sheet

Product Name: BRAKE CLEANER

MSDS No.: M720

I. Basic Information:

Manufacturer: RADIATOR SPECIALTY COMPANY

Address: 600 RADIATOR ROAD

City, ST Zip: INDIAN TRAIL, NC 28079

Emergency Contact: Rocky Mountain Poison Control Center

Emergency Telephone Number: 303-623-5716

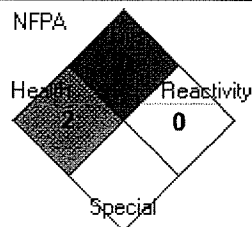
Contact: Robert Geer

Information Telephone Number: 704-688-3430

Last Update: 02/08/2005

Chemical State: ☒ Liquid ☐ Gas ☐ Solid

Chemical Type: ☒ Pure ☐ Mixture



2	Health
0	Reactivity
H	Pers. Protection

II. Ingredients:

☐ Trade Secret

CAS No.	Chemical Name	% Range	EHS	IARC	SARA	OSHA PEL	ACGIH TLV	Other Limits
			NTP		SUB Z			
124389	Carbon dioxide	1-3				N/AV	5000 ppm	
127184	Tetrachloroethylene	90-100	X	X	X	25 ppm	25 ppm	

III. Hazardous Identification:

Hazard Category:

☒ Acute ☒ Chronic ☐ Fire ☒ Pressure ☐ Reactive

Hazardous Identification Information:

Danger: Harmful or Fatal if Swallowed. Vapor harmful. Eye and Skin Irritant. Contents Under Pressure.

Level 1 Aerosol

IV. First Aid Measures:

Route(s) of Entry:

Absorption, inhalation, and ingestion

Health Hazards (Acute and Chronic):

Affects of overexposure are:

Acute: Liquid splashed on eyes and skin can result in discomfort, pain and irritation. Inhalation can cause irritation of the respiratory tract, dizziness, nausea, headache, loss of coordination and equilibrium, unconsciousness and even death in confined or poorly ventilated areas. Ingestion may result in irritation of the mouth and GI tract.

Prolonged exposure above the OSHA permissible exposure limit may complicate existing liver and kidney diseases.

Signs and Symptoms:

Eye Contact: Irritant. Prolonged contact may cause conjunctivitis.

Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.

Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis..

Ingestion: HARMFUL OR FATAL IF SWALLOWED. May cause burns to mouth, throat & stomach.

Medical Conditions Generally Aggravated by Exposure:

May complicate existing liver and kidney diseases.

MSDS - Material Safety Data Sheet

Product Name: BRAKE CLEANER

MSDS No.: M720

Emergency and First Aid Procedures:

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.

Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.

Inhalation: Remove to fresh air. If breathing becomes difficult, get prompt medical attention.

Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately.

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

V. Fire Fighting Measures:

Flash Point: None

Lower Explosive Limit:

Upper Explosive Limit:

F.P. Method: N/A

Fire Extinguishing Media: Water Fog, Foam, Carbon Dioxide, Dry Chemical

Special Fire Fighting Procedures:

Wear self-contained positive pressure breathing apparatus and protective clothes. Cool containers with a water fog. Use shield to protect from venting, rupturing, and venting containers.

Unusual Fire and Explosion:

Contents under pressure. May explode when heated. Vapors of this product may present a future health hazard in poorly ventilated areas. May liberate corrosive hydrochloric acid or toxic phosgene fumes.

VI. Accidental Release Measures:

Steps to be Taken in Case Material is Released or Spilled:

Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc). Shovel up and place contaminated material into an approved chemical waste container. Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occurred.

VII. Handling and Storage:

Precautions to be Taken:

Handling: Use with adequate ventilation and proper protective equipment.

Do not use or store near fire, sparks, or flame. Do not puncture or incinerate container. Exposure to temperatures above 120° may cause container to vent, rupture, or burst.

Other Precautions:

Vapors are heavier than air and will collect in low areas. This material or its vapors when in contact with flames, hot glowing surfaces or electric arcs can decompose to form hydrogen chloride gas and possible traces of phosgene. Avoid contamination with water supplies. Keep away from food.

VIII. Exposure Controls/Personal Protection:

Ventilation Requirements:

See Section 2 for applicable exposure limits. Maintain adequate ventilation.

Avoid breathing vapors. In restricted areas, use respirator with approved chemical filters designed to remove vapor. In confined areas, use approved air line type respirator or hood. A self-contained breathing apparatus is required for vapor concentrations above TLV limit.

Personal Protective Equipment:

See Section 2 for applicable exposure limits. For prolonged exposure wear protective safety glasses, gloves, and apron.

MSDS - Material Safety Data Sheet

Product Name: BRAKE CLEANER

MSDS No.: M720

IX. Physical and Chemical Properties:

Boiling Point: 250°F

Melting Point: N/A

Evaporation Rate (Butyl Acetate = 1): 0.09

Vapor Pressure (mm Hg.): 14.2

Specific Gravity (H2O = 1): 1.60000

Vapor Density (AIR = 1): 5.7

Solubility In Water: 0.015% @ 25°C

Appearance and Odor: Colorless volatile liquid with ether-like odor

Other Information: VOC Content: 0 %

X. Stability and Reactivity:

Stability:

Stable

Incompatibility (Materials to Avoid):

Open flames, hot glowing surfaces. Liquid oxygen or other strong oxidants can form explosive mixtures of perchloroethylene

Decomposition/By Products:

In the presence of water: hydrochloric acid. Ignition sources and hot metals surfaces: phosgene and chlorine. Flames, welding, and high temperatures induce decomposition.

Hazardous Polymerization:

Will not occur.

XI. Toxicological Information:

ACUTE INHALATION LC50: (rats) 5040 ppm for 8 hours. Moderately toxic.

ACUTE DERMAL LD50: (rabbit) > 3228 mg/kg. Slight to very low toxicity

SKIN IRRITATION: Mildly irritating.

EYE IRRITATION: Mildly irritating.

ACUTE ORAL LD50: (rats) 2629 mg/kg. Moderately toxic.

This product is listed under IARC as a 2A

XII. Ecological Information:

Toxic to aquatic life.

100 - 10 ppm (fish) 96-hours TLM LC50

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in aerosol recycling centers when empty. Before offering for recycling, empty the can by using the product according to the label. DO NOT PUNCTURE! If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations.

XIV. Transport Information:

DOT Hazard Class: ORM-D

Shipping Name: Consumer Commodity

XV. Regulatory Information:

USA TSCA: All chemicals used are listed on the TSCA Inventory.

CERCLA RQ: 1000 lbs

SARA 302: Not listed as a Extremely Hazardous Substance

SARA 311/312 HAZARD CLASS: Acute, Chronic

SARA 313 REPORTABLE: See Section 2 for SARA Reportable Chemicals.

PROPOSITION 65 WARNING: This product contains a chemical known to the State of California to cause Cancer.

NEW JERSEY RIGHT-TO-KNOW: Tetrachloroethylene

MSDS - Material Safety Data Sheet

Product Name: BRAKE CLEANER

MSDS No.: M720

<i>XVI. Other Information:</i>

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye.
KEEP AWAY FROM CHILDREN AND ANIMALS!

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered solely for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is responsible for full compliance.

MATERIAL SAFETY DATA SHEET

FPPF Chemical Company
117 West Tupper Street
Buffalo, NY 14201-2193
800-735-FPPF (3773)
24-hr Emergency Contact:
ChemTrec – 800-424-9300

*May be used to comply with OSHA Hazard
Communication Standard 29 CFR
1910.1200. Standard must be consulted
for specific requirements.*

SECTION 1

IDENTIFICATION

Trade Name:	FPPF 4000 Cooling System Treatment
Product Codes:	00149, 90149, 00150P, 00151
Proper Shipping Name:	Nitrites, inorganic, aqueous solution, n.o.s.
Technical names:	(Sodium nitrite solution)
U.S. D.O.T. Primary Hazard Class:	5.1 (Oxidizer)
U.S. D.O.T. Secondary Hazard Class:	None
Identification Number:	UN3219
Packing Group:	III
Reportable Quantity:	None in 55-gallon drums

SECTION 2

HAZARDOUS INGREDIENTS – IDENTITY FORMATION

<u>Hazardous Components</u>	<u>% wt</u>	<u>CAS #</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Sodium hydroxide	0.3	1310-73-2	2 mg/m ³	2 mg/m ³
Sodium nitrite**	2.1	7632-00-0	2 mg/m ³	2 mg/m ³

** Reportable under SARA 313 – 2.1% by weight

Other components, if any, are considered to be non-hazardous as per OSHA 29 CFR 1910.1200.

SECTION 3

PHYSICAL & CHEMICAL CHARACTERISTICS

Specific Gravity (H ₂ O=1):	1.05 @ 25°C
pH:	11.8-12.2
Evaporation Rate (Butyl acetate=1):	< 1
Weight (lbs/gal):	8.76
% solids:	8.4
Solubility in Water:	Complete
Viscosity:	Less than 10 cps
Appearance & Odor:	Clear Liquid

SECTION 4

FIRE & EXPLOSION HAZARD DATA

Extinguishing Media:	Water or carbon dioxide. Avoid ammonium phosphate (dry chemical).
Special Firefighting Procedures:	Use NIOSH-approved Self-Contained Breathing Apparatus.
Unusual Fire & Explosion Data:	Material, if evaporated to dryness, is an oxidizing agent and can stimulate or accelerate the combustion of organic or other combustible materials. Keep surrounding containers cool with water spray.

SECTION 5

REACTIVITY DATA

Stability:	Stable at room temperature.
Materials to Avoid:	Reactions can occur with acids, ammonium compounds, reducing agents.
Conditions to Avoid:	Temperatures above 320°C: Decomposes to yield oxides of nitrogen, which are toxic and are also oxidizers.
Hazardous Decomposition Products:	Toxic, gaseous nitrogen oxides, which are oxidizers; carbon monoxide and other organic compounds.
Hazardous Polymerization:	Will not occur.

SECTION 6

HEALTH HAZARD DATA

SIGNS AND SYMPTOMS OF EXPOSURE:

Eyes:	Causes burns and irritation.
Dermal:	Irritation and redness.
Inhalation:	Vapors may irritate nose, throat, respiratory tract. Large amounts may cause systemic effects, as nitrites are readily absorbed by lung tissue.
Ingestion:	Nausea, vomiting, dizziness, headache, blurred vision.

EMERGENCY AND FIRST AID PROCEDURES:

Eyes:	Flush with large amounts of water for 15 minutes, holding eyelids open during flushing with water. Get medical attention.
Dermal:	Wash with soap and water and then flush with water until all chemical is removed. Remove contaminated clothing promptly and wash before reuse. If irritation persists get medical attention.

SECTION 6 (CONT.):

Inhalation:	Remove victim to fresh air. If breathing has stopped, give artificial respiration, provides a qualified individual is available. Get prompt medical attention.
Ingestion:	If unconscious, or in convulsions, take immediately to a hospital. DO NOT attempt to induce vomiting or give anything by mouth to an unconscious person. If conscious, drink large amounts of water, induce vomiting. Take immediately to hospital or physician. If vomiting occurs, give additional water. If cyanosis (blue skin) develops, oxygen may be necessary.

SECTION 7

TOXICOLOGICAL INFORMATION

ACUTE HEALTH HAZARDS:

Eye Contact:	Causes burns, can result in damage and/or loss of vision.
Skin Contact:	Corrosive action causes burns. Prolonged contact damages tissue. Mist from solutions can cause irritant dermatitis.
Inhalation:	Inhalation of mists or vapors can cause damage to the upper respiratory tract and to the lung tissue depending on severity of exposure. Effects can range from mild irritation of mucous membranes to destruction of lung tissue.
Ingestion:	Ingestion can cause damage to the mucous membranes or other tissues with which contact is made, and may be fatal.
<i>Chronic Health Hazards:</i>	None expected on industrial level. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.
Carcinogenicity:	No data available to indicate any components present at greater than 0.1% may present a carcinogenic hazard.

SECTION 8

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Only trained personnel equipped with NIOSH/MSHA-approved combination dust/vapor and acid gas respirators should be permitted in area. Dike or pill area. If flammable materials and other sources of ignition are present they should be removed. Reclaim if possible into a drum; close and label "oxidizer". Or, dilute spill with large amounts of water and use vacuum truck to pick up diluted material for proper disposal. Attempt to keep out of sewer. Any release of this product to the environment may be subject to federal and/or state reporting requirements.

WASTE DISPOSAL METHOD:

In accordance with Local, State, and Federal Laws.

SECTION 9

SPECIAL PROTECTION INFORMATION

Respiratory Protection:

Normally not needed in a well-ventilated area. Where conditions require it, use a respirator approved by NIOSH for product dusts or solution mists – or nitrogen oxide gases – as applicable. Some exposure may require NIOSH-approved Self-Contained Breathing Apparatus or an air-supplied respirator.

Ventilation:

Mechanical to maintain good air flow.

Protective Gloves:

Rubber.

Eye Protection:

Goggles or safety glasses. Provide eye wash station and washing facilities near use or handling areas.

Other:

Wear full work clothing as needed to minimize exposure.

Hygienic Practices:

Always wash face and hands after contact. Remove contaminated clothing and wash before reuse.

SECTION 10

NOTES

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in the use of this material.

Revision date: January 10, 2003

Changes: Spelling corrections, minor format changes

CHURCH & DWIGHT CO., INC.

CONSUMER PRODUCTS • SPECIALTY PRODUCTS



MATERIAL SAFETY DATA SHEET

MSDS NUMBER: MSDS-960

ISSUE DATE: 09/17/05

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name

SODIUM BICARBONATE
(BAKING SODA)

Church & Dwight Co., Inc.
469 N. Harrison Street
Princeton, NJ 08543

Information Phone:
1-609-683-5900 (USA)

24 HOUR EMERGENCY TELEPHONE: CHEMTREC 800.424.9300 or 1-609-683-5900 (USA)

Medical Emergency Phone:
1-888-234-1828

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredient (% by Weight)

CAS Number

Sodium Bicarbonate 100%

144-55-8

Not hazardous under OSHA Standard 29 CFR 1910.1200.

Not a WHMIS controlled substance.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

White crystalline powder; no odor.

Not a fire hazard.

No significant health or environmental effects associated with this material.

HMIS Rating

Health	0
Fire	0
Reactivity	0

Potential Health Effects

EYE: Not an eye irritant.

SKIN CONTACT: Not a skin irritant.

INGESTION: Material is practically non-toxic. Small amounts (1-2 tablespoonfuls) swallowed during normal handling operations are not likely to cause injury as long as the stomach is not overly full; swallowing larger amounts may cause injury (see Note in Section IV).

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INHALATION: None known.

SUBCHRONIC EFFECTS/CARCINOGENICITY: Based on published studies on its effects in animals and humans, sodium bicarbonate is not teratogenic or genotoxic. Only known subchronic effect is that of a marked systemic alkalosis. Not classified as carcinogenic by NTP, IARC, OSHA, ACGIH or NIOSH.

4. FIRST AID MEASURES

EYES: Check for and remove contacts. Flood eyes with clean flowing water, low pressure and luke warm (not hot) if possible, occasionally lifting eyelids.

INGESTION: If large amounts of this material are swallowed, do not induce vomiting. Administer water if person is conscious. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Large doses may produce systemic alkalosis and expansion in extracellular fluid volume with edema.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASHPOINT: Not combustible

METHOD USED: Not applicable

FLAMMABLE LIMITS

LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Non-combustible material. Use extinguishing media appropriate for surrounding fire.

FIRE-FIGHTING INSTRUCTIONS: Carbon Dioxide may be generated making necessary the use of a self-contained breathing apparatus (SCBA) and full protective equipment (Bunker Gear). Carbon dioxide is an asphyxiant at levels over 5% w/w. Sodium oxide, another thermal decomposition product existing at temperatures above 1564°F is a respiratory, eye, and skin irritant. Avoid inhalation, eye and skin contact with sodium oxide dusts.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

6. ACCIDENTAL RELEASE MEASURES

Scoop up into dry, clean containers. Wash away uncontaminated residue with water.

7. HANDLING AND STORAGE

Store in cool, dry areas and away from incompatible substances (see Section 10).

Sodium Bicarbonate reacts with acids to yield carbon dioxide gas which can accumulate in confined spaces. Do not enter confined spaces until they have been well ventilated and carbon dioxide and oxygen levels have been determined to be safe.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Dust mask required if total dust level exceeds 10 mg/m³.

PROTECTIVE GLOVES: General purpose for handling dry product. Impervious gloves when working with solutions.

EYE PROTECTION: Safety glasses when handling bulk material or when dusts are generated.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Full cover clothing. Apron where splashing may occur when working with solutions.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: White crystalline powder.

ODOR: None.

PHYSICAL STATE: Solid

pH AS IS: Not Applicable

pH (1% SOLN. w/v): 8.2

VAPOR PRESSURE: Not applicable.

VAPOR DENSITY: Not applicable.

BOILING POINT: Not applicable.

FREEZING/MELTING POINT: Not applicable.

SOLUBILITY IN WATER: 8.6 g/100 ml @ 20°C.

BULK DENSITY (g/cc): 62 lb/Ft³

% VOLATILE: Not applicable.

VOLATILE ORGANIC COMPOUNDS: Not applicable.

MOLECULAR WEIGHT: 84.02

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Temperatures above 65°C (150°F).

INCOMPATIBILITY WITH OTHER MATERIALS: Reacts with acids to yield carbon dioxide. Also may yield free caustic in presence of lime dust (CaO) and moisture (i.e., water, perspiration).

HAZARDOUS DECOMPOSITION PRODUCTS: Heating above 100°C may cause dangerous levels of carbon dioxide gas to be present in confined spaces. Yields sodium oxide if exposed to temperatures above 850°C. Avoid inhalation, eye and skin contact with sodium oxide.

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HAZARDOUS POLYMERIZATION: Not applicable.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: The material was minimally irritating to unwashed eyes and practically non-irritating to washed eyes (rabbits).

SKIN EFFECTS: Not a skin irritant or dermally toxic. Not a contact sensitizer.

ACUTE ORAL EFFECTS: Acute Oral-rat LD₅₀ = 7.3 g/kg.

ACUTE INHALATION: LC₅₀ (rat) > 4.74 mg/l.

12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY:

Daphnids: EC₅₀ = 4100 mg/l.

Bluegill: LC₅₀ = 7100 mg/l.

Rainbow Trout: LC₅₀ = 7700 mg/l.

PERSISTENCE: This product is not expected to persist in the environment.

BIOACCUMULATION: This product is not expected to bioaccumulate.

13. DISPOSAL CONSIDERATIONS

Bury in a secured landfill in accordance with all local, state and federal environmental regulations. Empty containers may be incinerated or discarded as general trash.

14. TRANSPORTATION INFORMATION

D.O.T. SHIPPING NAME: Not regulated

TECHNICAL SHIPPING NAME: Sodium Bicarbonate

D.O.T. HAZARD CLASS: None

U.N./N.A. NUMBER: None

HAZARDOUS SUBSTANCE/RQ: None

D.O.T. LABEL: None

15. REGULATORY INFORMATION

CLEAN AIR ACT SECTION 611: Material neither contains nor is it manufactured with ozone depleting substances (ODS).

FEDERAL WATER POLLUTION CONTROL ACT (40 CFR 401.15): Material contains no intentionally added or detectable (contaminant) levels of EPA priority toxic pollutants.

CHURCH & DWIGHT CO., INC.

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FOOD AND DRUG ADMINISTRATION: Generally Recognized As Safe (GRAS) direct food additive (21 CFR 184.1736).

US DEPARTMENT OF AGRICULTURE: List of Proprietary Substances - Permitted Use Codes 3A, J1, A1, G1, and L1.

CERCLA REPORTABLE QUANTITY: None

OSHA: Not hazardous under 29 CFR 1910.1200

RCRA: Not a hazardous material or a hazardous waste by listing or characteristic.

SARA TITLE III:

Section 302, Extremely Hazardous Substances: None

Section 311/312, Hazardous Categories: Non-hazardous

Section 313, Toxic Chemicals: None

Sodium Bicarbonate is reported in the EPA TSCA Inventory List.

Contains no VOCs.

NATIONAL STOCKING NUMBER: 6810002646618, Contract No. DLA 40086C1831

NSF STANDARD 60: Corrosion and Scale Control in Potable Water. Max use 200 mg/l.

CANADA-DSL

EUROPEAN INVENTORY (EINECS): 205-633-8

JAPANESE INVENTORY (MITI): 1-164

AUSTRALIAN INVENTORY (AICS): Carbonic acid, monosodium salt.

16. OTHER INFORMATION

SUPERSEDES DATE: 09/17/02

REASON FOR REVISION: CHEMTREC
telephone number added.

For additional non-emergency health, safety and environmental information telephone 609.279.7705 or write to:

Church & Dwight Co. Inc.
R & D Technical Regulatory Affairs
469 North Harrison Street
Princeton, New Jersey 08543

This Product Safety Data Sheet is offered solely for your information, consideration and investigation. Church & Dwight Co., Inc. provides no warranties, either express or implied, and assumes no responsibility for the accuracy or completeness of data contained herein. Church & Dwight Co., Inc. urges persons receiving this information to make their own determination as to the information suitability for their particular application.

MATERIAL SAFETY DATA SHEET

Date Issued: 12/27/02

SECTION A - IDENTIFICATION & EMERGENCY INFORMATION

Manufacturer's Name: **Castrol Heavy Duty Lubricants Inc**
Emergency Telephone Number: 410-574-5000
800-777-1466

Address: 9300 Pulaski Highway
Baltimore, MD 21220

PRODUCT NAME: Castrol LNG Engine Oil
SAE 15W-40
Chemical Family: Petroleum Oil (Motor Oil)
Product Appearance & Odor: Clear Dark Amber Liquid
Mild Bland Petroleum Odor

Part Number: 1257

CAS Number (For Finished Product):
COMPLEX MIXTURE
CAS Number Not Applicable

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health - 1 Flammability - 1 Reactivity - 0

Hazard Rating: Least-0 Slight-1 Moderate-2 High-3 Extreme-4

SECTION B - COMPONENTS & HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Lubricating Oil Base Stock	64742-54-7	Greater than 65%
Proprietary Additives	Mixture	Less than 35%

Exposure Limit for Total Product: 5mg/m³ oil mist for an 8-hour work day. Basis: OSHA Reg 29 CFR 1910.1000

CERCLA Hazardous Substances: None known. If this product is accidentally spilled, it is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). We recommend you contact local authorities to determine if there may be other local reporting requirements. **US TSCA Inventory:** All components of this material are on the US TSCA Inventory. **Threshold Planning Quantity** (TPQ), EPA Regulation 40 CFR 355 Extremely Hazardous Substances (SARA Sections 301-304): None. **Toxic Chemical Release Reporting,** EPA Regulation 40 CFR 372 (SARA Section 313): Zinc Compounds < 1.0%

SECTION C - PHYSICAL DATA (THE FOLLOWING DATA ARE APPROXIMATE OR TYPICAL VALUES.)

Boiling Range: Not Determined	Percent Volatile by Volume: NEGLIGIBLE
Specific Gravity (H ₂ O=1): .8765	Vapor Pressure: NEGLIGIBLE
Pour Point: -22°C	Vapor Density: GREATER THAN AIR
Viscosity: 100°C cSt 14.9	Evaporation Rate: NEGLIGIBLE
Solubility in Water: Negligible, less than .1%	

SECTION D - FIRE PROTECTION INFORMATION

FLASH POINT & METHOD: Min. ASTM D-92 C.O.C. °C, (°F.)
232(450)

AUTO IGNITION TEMPERATURE:
NOT DETERMINED

**NATIONAL FIRE
PROTECTION ASSOCIATION
(NFPA)-Hazard Identification**
Health - 1
Flammability - 1
Reactivity - 0

Basis: Recommended by Castrol Heavy Duty Lubricants Inc

Hazard Rating (NFPA):
4-Extreme 3-High 2-Moderate
1-Slight 0-Insignificant

UNUSUAL FIRE & EXPLOSION HAZARDS:

None

Flammability Limits (% by volume in air):
Lower: Not determined Upper: Not determined

SECTION D - FIRE PROTECTION INFORMATION (CONTINUED)

HANDLING PRECAUTIONS: Use product with caution around heat, sparks, pilot lights, static electricity and open flame.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS: Fumes, smoke, carbon monoxide, sulfur oxides, and other decomposition products, in the case of incomplete combustion.

EXTINGUISHING MEDIA & FIRE FIGHTING PROCEDURES: Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on the size or potential size of fire and circumstances related to the situation. Plant fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Associations' *Fire Protection Guide on Hazardous Materials*. Use water spray, dry chemical, foam, or carbon dioxide to extinguish the fire.

Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

EMPTY CONTAINER WARNING: "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION E - PROTECTION & PRECAUTIONS

VENTILATION: Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, flame or other ignition sources.

RESPIRATORY PROTECTION: Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES: Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION: Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT: Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS : Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants. In order to prevent fire or explosion hazards, use appropriate equipment.

PERSONAL HYGIENE: Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing: launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean before re-use; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed skin by waterless hand cleaners followed by washing thoroughly with soap and water.

VARIABILITY AMONG INDIVIDUALS: Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

SECTION F - SPILL OR LEAK PROCEDURE

ENVIRONMENTAL IMPACT: Report spills as required to the appropriate authorities. U.S. Coast Guard Regulations require immediate reporting of spills that could reach any waterway including intermittent dry creeks. Report spill to the Coast Guard toll free number 800-424-8802.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED: Recover free product. Add sand, earth, or other suitable absorbent material to the spill area. Minimize breathing vapors. Minimize skin contact.

Keep product out of sewers and watercourses by diking or impounding. Advise authorities if the product has entered or may enter sewers, watercourses, or extensive land areas. **ASSURE CONFORMITY WITH ALL APPLICABLE REGULATIONS.**

WASTE DISPOSAL: Dispose of in an environmentally safe manner and in accordance with all government regulations to include Federal, State, and local requirements.

SECTION G - REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS & MATERIALS TO AVOID: Avoid heat, open flames and oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition products are highly dependent on the combustion conditions. A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes combustion. Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

SECTION H - EMERGENCY & FIRST AID PROCEDURES AND PRIMARY ROUTES OF ENTRY

EYE CONTACT: If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN CONTACT: In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INGESTION: If ingested, DO NOT induce vomiting; call a physician immediately.

INHALATION: Vapor pressure is very low. Vapor inhalation under ambient temperature conditions is not normally a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. Administer oxygen, if available. If over-exposed to oil mist, remove from further exposure until excessive mist oil condition subsides.

SECTION I - EFFECTS OF OVEREXPOSURE

SKIN: Prolonged or repeated skin contact may cause skin irritation. **EYE:** May cause eye irritation. **INGESTION:** Relatively non-toxic.

SECTION J - TRANSPORTATION INFORMATION

DEPARTMENT OF TRANSPORTATION (DOT) - DOT Identification Number: Not Regulated.

THE PRECISE COMPOSITION OF THIS MIXTURE IS PROPRIETARY INFORMATION. A MORE COMPLETE DISCLOSURE WILL BE PROVIDED TO A PHYSICIAN OR NURSE IN THE EVENT OF A MEDICAL EMERGENCY.

**CASTROL NORTH AMERICA INC.
CONSUMER
MATERIAL SAFETY DATA SHEET**

SECTION I: IDENTITY

Product/Material Name: Castrol Tractor/Hydraulic Fluid
Chemical Name: Mixture
Chemical Family/Classification: Petroleum hydrocarbon
Molecular Weight: NA

Chemical Formula: NA

Material Use: Multipurpose Fluid for transmissions, differentials, hydraulics, wet brakes

HMIS HAZARD RATING:

[0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe]

Health: 1 Flammability: 1 Reactivity: 0

WARNING STATEMENTS (If Applicable):

None applicable

MANUFACTURER'S/ SUPPLIER NAME & ADDRESS:

In the US:
Castrol North America Inc.
1500 Valley Road
Wayne, NJ 07474
Telephone: (973) 633-2200
Telecopier: (973) 633-7475

In Canada:
Castrol Canada Inc.
3660 Lakeshore Blvd
Toronto, Ontario M8W 1P2
Telephone: (416) 252-5511
Telecopier: (416) 252-1774

IN THE EVENT OF AN EMERGENCY PLEASE CALL: BP Emergency Response Center 1-800-321-8642

Date Prepared/Updated: 08/01/2003

Preparer: Regulatory, Environmental, Safety Department
Telephone: (973) 633-2200

SECTION II: PRODUCT/HAZARDOUS INGREDIENT INFORMATION

INGREDIENTS - CHEMICAL/COMMON NAME	EXPOSURE LIMITS-TLV	LD ₅₀	LC ₅₀	%
Severely refined petroleum basestocks. May contain one or more of the following CASRN, 64741-88-4; 64742-54-7; 64742-56-9; 64742-65-0	PEL/TWA: 5 mg/m ³ , mist (OSHA, ACGIH) STEL: 10 mg/m ³ , mist (ACGIH)	Oral, rat: > 5 g/kg.	Inhalation, 4 hr., rat: > 5000 mg/m ³	60-100
Methacrylate polymer and/or ethylene- propylene copolymer with a nitrogen functional group [CASRN NA, mixture]	ND	ND	ND	5-10
Multi-functional additive mixture composed of organo-metallic compounds, typically containing zinc dialkyl dithiophosphate, other additives [CASRN NA, mixture]	ND	ND	ND	5-10
Butyl benzyl phthalate [CASRN 85-68-7]	ND	Oral, rat: 2330 mg/kg Dermal, rat: 6700 mg/kg Intraperitoneal, mouse: 3160 mg/kg	ND	0.5-1.5

NOTE:

Product contains no materials currently classified as carcinogenic per the Annual Report of the National Toxicology Program [NTP], OSHA Hazard Communication Standard or the International Agency for Research on Cancer [IARC, Groups 1, 2A or 2B].

SECTION III: FIRST AID MEASURES

Signs/Symptoms: Transient eye irritation, redness, tearing.

Eye contact: Flush with clear water for at least 15 minutes or until any irritation subsides. If irritation persists, seek medical attention.

Skin contact: Remove contaminated clothing and wash before reuse. Wipe excess material from skin. Wash exposed area with soap and water.

Inhalation: If irritation or drowsiness occur, move the person to fresh air. Administer respiratory assistance if breathing is difficult or stops; Consult a physician.

Ingestion: Give plenty of water or other mild drinkable fluids and call a physician immediately. Do not induce vomiting without express consent of medical personnel.

SECTION IV: HEALTH HAZARD DATA**Exposure Limits:**

See Section II, Product/Ingredient Information.

(For product) - Recommend using 5 mg/m³ for mineral oil mist averaged over an 8 hour daily exposure, based on established OSHA and ACGIH limits.

PRIMARY ROUTES OF ENTRY:

- ☒ Eye Contact
- ☒ Skin Contact
- ☐ Skin Absorption
- ☐ Inhalation (Acute)
- ☐ Inhalation (Chronic)
- ☐ Ingestion

EFFECTS OF EXPOSURE**Acute - (Evaluation based on components and/or similar products)**

Eyes: Not expected to cause prolonged or significant eye irritation.

Skin: Not expected to cause prolonged or significant skin irritation.

Respiratory system: Harmful concentrations of mists/vapors are unlikely through customary handling or use of this product.

Ingestion: Low order of toxicity, but may cause gastrointestinal disturbances, diarrhea. Ingestion of large amounts may cause headache, drowsiness, nausea, vomiting or diarrhea.

Chronic -

Prolonged or repeated skin contact may cause skin drying, cracking, irritation, defatting and dermatitis.

The product contains petroleum baseoils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils require a cancer warning under the OSHA Hazard Communication Standard [29 CFR 1910.1200]. These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Medical Conditions Generally Aggravated by Exposure: Pre-existing skin disorders.

TOXICOLOGY DATA (Product)**Acute Data (Median Lethal Dose - species)**

Oral LD₅₀ - rat: ND

Dermal LD₅₀ - rabbit: ND

Inhalation LC₅₀ - rat: ND

Irritancy Data

Eye irritation - rabbit: ND

Skin irritation - rabbit: ND

Sensitization - guinea pig: ND

Other: A minor component, Butyl benzyl phthalate [CASRN 85-68-7], has been shown to cause adverse reproductive effects in male and female rats when administered orally in experimental tests.

No data regarding presence of carcinogenicity, mutagenicity, respiratory toxicity, sensitizing ability or synergistic substances.

SECTION V: EMPLOYEE PROTECTION**Ventilation:**

No special ventilation is usually necessary. However, if operating conditions may create high airborne concentrations of this material, special or local ventilation may be needed.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: None required under normal use. If exposure is expected to exceed occupational exposure limits, use a NIOSH-approved respirator to prevent overexposure. In accordance with 29 CFR 1910.134, use either an atmosphere supplying respirator or an air-purifying respirator for organic vapors and particulates.

Eye: Safety goggles or glasses.

Gloves (specify): Wear oil impervious type, such as neoprene, nitrile, polyvinylchloride, to minimize skin contact.

Clothing: No special requirement; Normal work clothing. A coverall or apron may be used to minimize skin contact

Footwear: No special requirement.

Other: NA

Work/Hygienic Practices: Avoid prolonged and repeated skin contact. Do not wear contaminated clothing; Launder before reuse or discard. Wash thoroughly with soap and water after handling.

Storage/Handling: Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants. Avoid breathing mist. Maintain adequate ventilation. Avoid prolonged or repeated contact with skin.

SECTION VI: PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: > 500 F (> 260 C)

Specific Gravity (Water=1): 0.88

Vapor Pressure (mm.Hg. @ 25 C): ND

Vapor Density (Air=1): ND

Percent Volatiles: Negligible

Evaporation Rate(BuAc=1): ND

Solubility in Water: Negligible

Freezing Point: ND

pH-Value: NA

Viscosity @ 40 C, cSt.: 55.6

Odor Threshold: NA

Coefficient of Water/Oil Distribution: ND

Appearance, Odor & Physical State: Clear, light amber liquid; mild petroleum odor

SECTION VII: FIRE AND EXPLOSION DATA

FLAMMABILITY Yes [X] No [] NFPA Class IIIB material - Combustible liquid

Flash Point (COC): 428 F (220 C) min.

Fire Point (COC): > 428 F (220 C)

Autoignition Temperature: ND

Flammability limits in Air, % Vol.: Upper - ND

Lower - ND

Extinguishing Media:

CO₂, dry chemical, foam and water fog. Do not use water jets.

Special Firefighting Procedures/Unusual and Explosion Hazards:

Material must be preheated to burn. Do not enter confined areas without full protective equipment, including a positive pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water.

EXPLOSION DATA

Sensitivity to Mechanical Impact: NA

Sensitivity to Static Discharge: NA

SECTION VIII: REACTIVITY

Stability: Stable at ambient temperatures

Hazardous Polymerization: Will not occur.

Conditions and Materials to Avoid (Incompatibilities):

Heat, open flame and oxidizing materials.

Hazardous Combustion or Decomposition Products:

Smoke, fumes, oxides of carbon

SECTION IX: ENVIRONMENTAL PROTECTION

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300, 24 hrs. for U.S. transportation related spills, leaks, fire, exposure or accident.

CANUTEC EMERGENCY PHONE NUMBER: (613) 996-6666, 24 hrs. for Canadian transportation related spills, leaks, fire, exposure or accident.

Spill or Leak Procedures:

Product may burn but is not readily ignitable. Use best engineering practices when attempting cleanup of a large spill.

Large spills - Wear respirator and protective clothing as appropriate. Stop source of leak if possible. Prevent entry into water sources. Dike and contain spill. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an inert absorbent such as clay, sand or other suitable materials; Store and dispose of properly. Where feasible and appropriate, remove contaminated soil.

Small spills - Soak up spill with an inert absorbent such as clay, sand or other suitable materials; Store in a closed container and dispose of properly.

Regulatory spill reporting requirements may apply; Contact governmental agency or legal counsel for advice.

Waste Disposal Method:

If discarded as supplied, material does not meet RCRA characteristic definition of ignitability, corrosivity or reactivity and is not listed in 40 CFR 261.33.

The toxicity characteristic has not been evaluated.

Under RCRA, the applicable hazardous waste classification must be evaluated prior to disposal of the material. Use of the product, processing or contamination may render the resulting material hazardous.

All recovered material should be packaged, labeled, transported and disposed of or reclaimed in accordance with governmental regulations regarding air pollution, water pollution or health.

Don't pollute - Conserve Resources. Dispose of used oil properly.

CAUTION: Improper disposal or reuse of the empty container may be hazardous and illegal. Cutting or welding of empty containers may cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place. Refer to applicable governmental regulations.

PRODUCT NAME: Castrol Tractor/Hydraulic Fluid

SECTION X: REGULATORY INFORMATION

TRANSPORTATION

Special Shipping Information/DOT Proper Shipping Name: Not regulated.

CHEMICAL CONTROL REGULATIONS:

TSCA Status: All components of this material appear on the Toxic Substance Control Act Chemical Substances Inventory.

DSL Status: All components of this material appear on Canadian Domestic Substances List.

Canadian Workplace Hazardous Material Identification System (WHMIS) Classification: Material is not a "controlled product".

EPCRA (SARA Title III):

Section 302/304 Extremely Hazardous Substance: NA

CERCLA Section 102(a) Hazardous Substance: Dibutyl benzyl phthalate, CASRN 85-68-7, RQ=10,000 lb. (4500 kg.)

Section 311 Hazard Category

- ☐ Acute (immediate)
- ☐ Chronic (delayed)
- ☐ Fire
- ☐ Sudden Release of Pressure
- ☐ Reactive
- ☒ Not applicable

Section 313 Toxic Release Inventory Chemical/Category:

Zinc compounds, 2.0% (wt.) max.

Dibutyl benzyl phthalate, CASRN 85-68-7, 1.0% (wt.) max.

U.S. STATE RIGHT TO KNOW LAWS

New Jersey Worker and Community Right to Know Act, N.J.A.C. 8:59-5 Labeling Information: Petroleum Oil (Hydraulic Oil)

NOTICE:

The information presented herein is compiled from sources considered to be dependable, believed to be accurate to the best of Castrol's knowledge, and offered in good faith for the purpose of hazard communication. Because product use is beyond our control, no warranty is given, expressed or implied. Castrol Inc. cannot assume any liability for the use of information contained herein. To determine applicability or effect of any law or regulation with respect to the product, users should consult a legal advisor or appropriate governmental agency.

MATERIAL SAFETY DATA SHEET

E-404
01 00

MANUFACTURER'S NAME
THE NOCO COMPANY
23300 Mercantile Rd.
Cleveland, OH 44122-5921

EMERGENCY TELEPHONE NO.
(800) 424-9300

DATE OF PREPARATION
07-AUG-00

INFORMATION TELEPHONE NO.
(216) 464-8131

Section I - PRODUCT IDENTIFICATION

PRODUCT NUMBER

E-404

HMIS CODES

Health	2
Flammability	4
Reactivity	0

PRODUCT NAME

NOCO* H2SO4 Battery Cleaner and Acid Detector

PRODUCT CLASS

Aerosol Cleaner

Section II - HAZARDOUS INGREDIENTS

INGREDIENT	ACGIH	OSHA			
CAS No.	% by WT	TLV	PEL	UNITS	V.P.
Propane	3	2500	1000	PPM	760.00
74-98-6					
Butane	7	800	800	PPM	760.00
106-97-8					
2-Propanol	6	400	400	PPM	33.00
67-63-0	STEL	500	500	PPM	
pH - 7.0					

Section III - PHYSICAL DATA

PRODUCT WEIGHT	7.69 lb/gal	921 g/l
SPECIFIC GRAVITY	0.93	
BOILING POINT	<0 - 213 F	<-18 - 100 C
MELTING POINT	Not Available	
VOLATILE VOLUME	98 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)		
Volatile Weight 15.90 %	Less Federally Exempt Solvents	
HMIS - 2 4 0		

Section IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	LEL	UEL
Propellant < 0 F	1.9	12.7

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

Continued on page 2

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UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

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Section V - HEALTH HAZARD DATA

ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

ACUTE Health Hazards

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

If on SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

If SWALLOWED: Get medical attention.

CHRONIC Health Hazards

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

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Section VI - REACTIVITY DATA

STABILITY - Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII - PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section IX - PRECAUTIONS

DOL STORAGE CATEGORY

1A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section X - OTHER REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.

CHEMICAL/COMPOUND

% by WT

% Element

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.